Florida Banking: Present Market Structure and Performance and an Inquiry into the Probable Effects of Alternative Forms of Bank Organization

By

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Abstract of Dissertation Presented to the Graduate Council
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FLORIDA BANKING: PRESENT MARKET STRUCTURE AND PERFORMANCE AND AN INQUIRY INTO THE PROBABLE EFFECTS OF ALTERNATIVE FORMS OF BANK ORGANIZATION

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The purpose of this study is an audit of Florida's bank regulatory set. The emphasis is on that part of the regulatory set which specifies or controls bank structure within the state. The primary concern is whether the existing structural constraint, uni-office banking, is optimal from the point of view of minimizing the cost of intermediation or whether this objective could be better achieved with fewer structural constraints.

A theoretical framework is developed around a concept of the regulatory system which envisions the task of regulation as one of increasing the coincidence of the extant set of outputs and inputs associated with the banking industry at any point in time with some optimal set. The best structural regulation is seen as that which facilitates this regulatory goal of equilibration.

The optimal set of outputs and inputs is defined in terms of a function whose objective is minimization of the price of intermediation. This objective is specified in terms of four desiderata:

(1) Productive efficiency;

(2) Allocative neutrality;

(3) Responsiveness to changes in technology and consumer demand;

(4) Deposit protection.

These were found to be consistent with the minimization of the price of intermediation and were collapsed into a single function as:

$$\min \sum_{k=1}^{n} \sum_{j=1}^{m} 0_k P_{ok} - I_j P_{ij}$$

Subject to:

$$0_k > 0$$

$$I_j > 0$$

$$\sum_{k=1}^{n} \sum_{j=1}^{m} 0_k P_{ok} - I_j P_{ij} \gtrsim E.$$

This model was then used to measure the coincidence between the existing and desired sets of inputs and outputs.

Published banking data provide the basis for establishing the characteristic input/output sets associated with the uni-office banking of Florida and the multi-office alternative. Market structure is viewed as a separate and identifiable subset of the universe of characteristics associated with Florida banking. The relationship between market structure and the objective function is identified and the optimal condition is compared with those market characterisitcs found under the alternative structural regulations. From this comparison, the cost and/or benefits of Florida's uni-office constraint in terms of market structure is derived.

The focus of the analysis then shifts from structure to performance. The study compiles and analyzes bank performance data under the various regulatory sets in both the input and output markets. Optimal performance in terms of minimizing the price of intermediation is compared with the performance characteristics of the alternatives. The results of such a comparison are again indicative of the cost/benefit trade-offs involved in Florida's uni-office constraint.

The conclusion that is drawn after examining the data in terms of the objective function is that Florida's uni-office constraint is less efficient as an equilibrator than the allowance of multi-office banking would be. Florida's current structural regulations were drawn up in 1913. The economic environment in which they were attempting the equilibrating task was dominated by agriculture and what little manufacturing was present was concentrated in lumber and timber. Population was small and widely dispersed with little in-migration and a relatively low growth rate.

The same regulative set is attempting the equilibrating task in today's environment. Almost every characteristic of the state has undergone radical change over the ensuing 60 years. Population is among the largest in the nation and is growing rapidly due to a high level of in-migration. Service and trade is the major industry in the state while food and kindred products dominate the manufacturing sector.

While the uni-office constraint may have been relevant to the intermediation needs of the state in 1913, today, according to the

evidence examined, this regulation causes an undue divergence from the optimal set of banking outputs and inputs. A change in Florida bank laws to allow multi-office banking would allow Florida bank structure to be more consistent with the existing economic environment and more responsive to the present and future financial intermediation needs of the state. Such a result would contribute to a reduction in the cost of intermediation in Florida.

CHAPTER I

INTRODUCTION

> Few indeed are the areas that have been left untouched by industrial dispersion, revolutionary changes in production and marketing, population shifts, and new highway and other transportation systems. This is the time. . . to take a hard look at our existing banking structures. Our sights should go higher than the emotional issues of fifty years ago. Instead we must look at the form of banking now existing in our respective states and determine whether it is still the most appropriate and best form.[1]

These remarks are characteristic of a rather important change which has been taking place in the banking industry in recent years. Bankers have begun to show an interest in investigating alternatives in all facets of the banking business. They have shown a willingness to expose even the most "sacrosanct" aspects of American banking to the tests of optimality. This wave of critical self-examination has coincided with an increased interest on the part of the general public as well as the government in the "best" bank structure, the "most competitive" bank markets, and the "most favorable" bank performance.

Florida has not been immune to this "renaissance". Within the last few years, the Florida Bankers Association has changed its stand on multi-office banking from one of opposition to one of "neutrality". Numerous hours have been spent by the Legislature considering changes in the bank structure. Several bills have been introduced in recent sessions of the Legislature which would have had a direct effect on the Florida banking industry. Although many of these proposals were defeated, their introduction is indicative of the rising level of concern and interest. In Florida, as elsewhere, there has been a recent realization that the regulatory aspects of banking should be consistent with the optimal banking system as defined by the existing social, political, and economic environment. While this realization does not necessarily mean regulatory change, it does mean a continuous examination and evaluation of regulations as to their relevance and effectiveness.

It is in response to this increasing banking awareness that this dissertation has been conceived. If Florida banking is to fulfill its function of financial intermediation,[2] the standard that has to be applied must be dynamic. Optimality in regulation cannot be a static notion, but an on-going concept subject to continual audit. This auditing process must constantly consider several data inputs:

1) A historical context so that the underlying continuities may be recognized and evaluated;
2) A definition of the present position of Florida banking as to structure and performance;
3) An analysis of the effects of various types of bank regulation on bank market structure and performance;
4) Specific consideration of alternative regulation sets and how such changes might affect Florida banking.

This dissertation proposes to consider only one element of the regulation set -- the regulation of bank organization or structure. This particular subject is of immediate concern to Florida banking for most of the recent debate is focused on the appropriateness of current bank structure, unit banking, as opposed to its primary alternative, multi-office banking. This dissertation will examine the hypothesis that Florida's uni-office constraint causes an undue divergence from optimality as measured by the cost of intermediation.

In Chapter II, the theoretical framework for the study will be developed. One of the major difficulties in dealing with banking is the general lack of any cohesive conceptual framework. Many studies are based on a presumed and unspecified set of relationships, while others are willing to adopt a verbalized, imprecise representation. The result of these approaches is, all too often, an investigation which is internally consistent but of limited use because of the lack of rigor in developing the conceptual model.

Chapter II attempts to avoid these shortcomings by explicitly developing a model in a relatively precise manner. The chapter specifies the relationships between the optimal set of output/input, the extant set of output/input, and the regulative set. Using the optimal bank structure as a surrogate variable, a set of associated characteristics of the industry is developed. It is suggested how these criteria might be collapsed into a single measure to permit analysis and measurement of existing output/input, structure, and regulations in a relatively straightforward manner. The criteria and resulting model are to be used as benchmarks or general goals. They will provide a framework for policy action and an indicator of the direction policy should move in order to approach optimality.

However, application of this theoretical framework requires an appreciation of the current economic environment as well as some sense of the historical development of Florida's banking industry. Chapter III traces this evolution of Florida banking into its present state with particular emphasis on changes in structural regulation and the historical context within which these changes took place. It is also in this chapter that the current economic environment, to which Florida banking must be responsive, is described and analyzed.

It is in Chapter IV that we begin to measure the optimality of the Florida regulatory set. Market structure is viewed as a separate and identifiable subset of the universe of characteristics associated with Florida banking. Chapter IV identifies the relationship between market structure and the objective function of minimizing the cost of intermediation. The optimal set is then compared with those market characteristics found under the alternative structural regulations. From this comparison, the cost and/or benefits of Florida's uni-office[3] constraint is derived.

In the next chapters (Chapters V and VI), the analysis is turned directly to market performance rather than market structure. The purpose will be to look at performance under the various regulatory sets in either the input market (Chapter V) or the output market (Chapter VI) and to compare these data with optimality as prescribed by the overall objective of minimizing the cost of intermediation. The results of such a comparison would again be indicative of the cost/benefit trade-offs involved with Florida's uni-office constraint.

The summary draws together the several strands of thought and attempts to synthesize these into a general conclusion. The conclusion that is reached is that present Florida bank organization regulations were developed in the distinctly different economic environment of 1913. While these laws may have been relevant to the financial needs of the state at that time, today these regulations cause an undue divergence from the optimal banking system. A change in Florida bank laws to allow branch banking would make Florida bank structure more consistent with the existing economic environment and more responsive to the present and future financial needs of the state.

Methodology

The methodological approach which is used is an admixture of inductive and deductive reasoning with both positive and normative implications.

The theoretical framework or model which is developed is a product of the deductive method. The model is erected on a framework of axioms, propositions and statements which are taken as true with little empirical verification. Given these premises, the model's endogenous relationships permit deduction of the set of characteristics associated with optimal structural regulation.

The empirical content of the study necessitates the use of inductive reasoning as the structural and performance data are sorted for generalizations. The collection of facts and figures regarding the result of banks operating under different regulatory sets leads to inductive conclusions concerning the structural regulation-performance-market structure relationships. From these induced characteristics, the possible changes in Florida banking, with a change in the regulatory set,are then deduced.

Within this methodological organization, the statistical techniques used are generally uni-variate in nature,and therefore, limited in their analytical content. The primary objective of this study is to develop an integrating theoretical framework within which existing statistical studies can be recast and structural optimality can be measured. While there is a limited amount of original statistical compilation done within the paper, the accompanying analysis is generally restricted to uni-variate inference. The possible limitations of this ceteris paribus technique are well known. However, it is not felt that these limits detract in any substantial way from the conclusions. The alternative, multi-variate analysis, is unwieldy when dealing with banking data because of the multitude of variables and their interrelationships.[4] Further, the uni-variate analysis is made more analytically acceptable when the several different tests yield consistent parameters as in this study. Finally, the emphasis is, again, not on the statistical computations, but on the theoretical framework which facilitates integration of the data into a cohesive whole.

The variable which is used most often for grouping is the structural regulation within a state. The parameters which are developed are held to be characteristic of the states grouped according to their structural set. This obviously could be a source of bias if a structural set group corresponded to groupings by other variables having an impact on the market structure and performance in banking. However, the regulatory grouping brings together states which are rather heterogeneous in other aspects. In demographic terms, large states are found in both the uni-office and multi-office set and those states experiencing rapid growth in population as well as stagnation are also found in both sets. The extremes of personal income are present in both regulatory environments and a variety of economic situations exist within and between the different regulatory sets.[5] While there may be some bias from the grouping, the heterogeneity tends to minimize this and the resulting parameters appear to be valid estimates of regulatory characteristics.

NOTES TO CHAPTER I

1. Excerpts from a speech by Archie K. Davis, president, American Bankers Association before the February, 1966, meeting of the Ohio Bankers Association. Quoted by Gerald C. Fischer, American Banking Structure (New York: Columbia University Press), 1968, p. 1.

2. Financial intermediation is the process of bringing together surplus and deficit units in the economy. The financial intermediary is, therefore, "an institution that has financial or monetary relations on each side of the balance sheet." See Roland L. Robinson, Financial Institutions (Homewood, Ill.: R.D. Irwin, Inc., 1960), p. 12.

3. The term "uni-office" refers to structural regulation known as unit banking under which each bank corporate organization is restricted to one geographical location. The term "multi-office" refers to structural regulation known as branch banking under which each bank corporate organization may have one or more geographical locations.

4. There have been some multivariate studies attempted in bank data analysis and these will be used and referred to in later chapters. However, the results have generally been either unusable or consistent withuni-variate analysis.

5. A cursory look at the groupings would indicate that each regulatory set faces a variety of environments within which it attempts to accomplish some assigned objective. It can be seen from the following listing, the regulatory differences are not consistently matched by demographic or economic characteristics. For a complete listing of the groupings see page 54.

	Uni-office	Multi-office
Population	Illinois (4)*, Texas (5)	California (1), New York (2)
Population Growth	Florida (2) North Dakota (49)	Nevada (1) South Dakota (50)
Personal Income	Illinois (4)	Connecticut (1)
Industrialized States	Illinois Missouri	Ohio Pennsylvania
Agricultural States	Kansas Nebraska	South Dakota Mississippi

*Numbers in parentheses represent relative rank.

CHAPTER II

BANK REGULATION: ITS FUNCTION AND A MODEL FOR TESTING ITS OPTIMALITY

Structural optimality in social institutions must be associated with the set of characteristics, outputs and inputs, which is deemed the most desirable by society at some point in time. A given structure is preferred, not because of its intrinsic value, but because of its associated set. "Competition as a market structure is not an end in itself. It is desirable because of what it leads to."[1]

The set of characteristics, inputs and outputs, associated with the optimal structure tends to change over time. It is a function of the existing political, social, and economic environment and as these factors may change over time, so may the desired set.

The implied association between input-output and structure suggests some degree of causal correlation between these two elements. It should be recognized that structure is merely one of a number of variables which may affect the final set. The degree of correlation may be reduced or distorted by perverse movement of the unconsidered variables. It is therefore evident that,when we refer to the optimal structure, a time dimension is implied. The ideal nature of the structure may be static in that it relates to a specific point in time, t_0, when all other factors affecting the final set are given. However, structural optimality in a dynamic sense would include the flexibility to change appropriately when changes in the other factors cause a divergence between the actual and optimal set.

The Nature of the System

The importance of these relationships requires a more explicit statement of their nature. If we define 0^* as the set of optimal output and input, we might then express it as:

$$0^* = f(e,s,p) = f(A)$$

$A = \{e,s,p\}$
e = current economic conditions
s = current social conditions
p = current political conditions.

We then can define 0_n as the current set of output and input such as:

$$0_n = f(e,s,p,x) = f(B)$$

where

$$B = \{e,s,p,x\}$$

x = a set of factors, historical or current within the the states of nature, which prevent the equivalency of set 0^* and 0_n. If $x=0$ then $0^*=0_n$ and if $x \neq 0$, then $0^* \neq 0_n$.

Such factors as contained in x may be exogenous to the existing order and may be a product of the difference in the rate of change in institutions and practices, i.e., $\frac{de}{dt} \lessgtr \frac{ds}{dt} \lessgtr \frac{dp}{dt}$ (where t = time). On the other hand, such factors may be endogenous and may represent internal conflicts between existing institutions which result in something other than the optimal set.

If $x = \varepsilon$, where ε is an empty set, and $0^* = 0_n$, society generally evolves a regulative set, r, in an attempt to overcome the perversity of x and increase the equivalency of 0^* and 0_n. Thus we find that:

$$0_{nL} = f\ (e,\ s,\ p,\ x,\ r) = f(C)$$

$$C = \{e,\ s,\ p,\ x,\ r\}$$

such that if $x = \varepsilon$, then $r = \varepsilon$ and if $x \neq \varepsilon$, then $r \neq \varepsilon$. It should be noted that 0_{nL} merely represents 0_n as transformed over time by the regulative set, r, so that $0_{nL} = 0_{n(t+1)}$. If $r_t = r_{t+1}$ then $0_{nL} = 0_n$. Of course, the desired result of intruding r is to increase the population of the intersection set so that $0^* \cap 0_{nL} > 0^* \cap 0_n$.

The structural characteristics of society are a proper subset of the existing social, political, and economic conditions. The optimal structure, S*, is contained in A such that: $S^* \subset A$.

However, it is necessary in structural considerations that we recognize, as in our previous discussion, the existence of factors, x, which prevent the evolution of the optimal structure set from the existing social, political, and economic conditions. Thus, S_n, the existing structure may be seen as:

$$S_n \subset B$$

if $x = \varepsilon$, then $A = B$ and $S^* = S_n$.

if $x \neq \varepsilon$, then $A \neq B$ and $S^* \neq S_n$.

As before, society's reaction to the existence of x and the fact that S* may not be equivalent to S_n is the development of some regulative set, r, which attempts to minimize the disruptive effect of x and maximize the equivalency of S* and S_n. So the actual structure:

$$S_{nL} \subset C$$

if $x = \varepsilon$, $r = 0$, $A = B = C$, and $S^* = S_{nL}$;

if $x \neq \varepsilon$, $r \neq 0$, $A \neq B \neq C$, and $S^* \neq S_{nL}$;

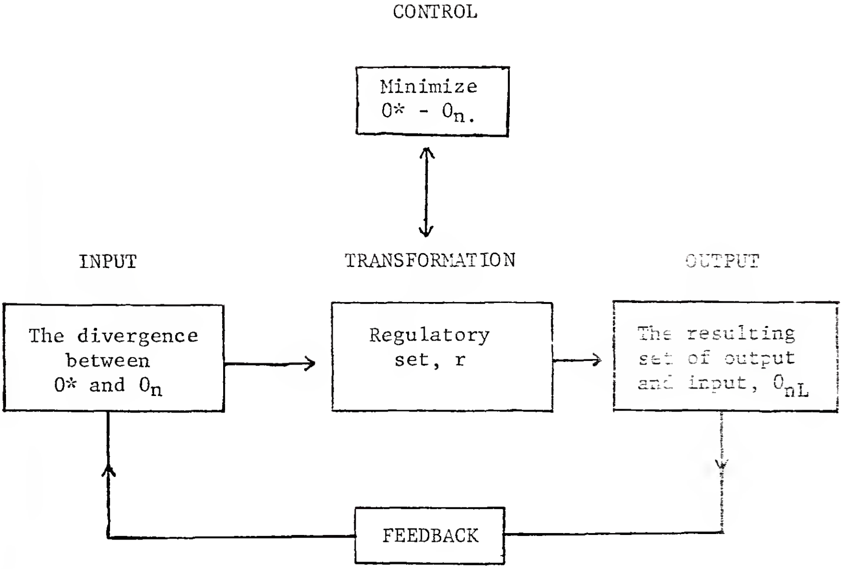
$S_{nL} = S_{n(t+1)}$; if $r_t = r_{t+1}$ then $S_{nL} = S_n$.

Given the foregoing relationships, we then can say that

$0^* = f\ (S^* / A - S^*)$

$0_{nL} = f\ (S_{nL} / C - S_{nL})$.

The members of the intersection set $0^* \cap 0_{nL}$ will vary over time due to the nature of the members of sets A and C. Economic (e), social (s), and political (p) conditions are affected by an extremely large and varied number of factors. Some of these factors are controllable, others are not, and still others are a combination. As a result, the conditions which affect the optimal outcome are subject to rather continuous change over time. The same may be said of x, the intruding element, which prevents the equivalency of 0^* and 0_n. However, this is not true of r, the regulative set. While r may change over time, the procedure is discontinuous in nature. A change in r generally requires a specific decision process and until this process is completed, r is a constant. Changes are discrete in nature, rather than continuous and, as a result, a given regulative set, r_1, which is imposed to increase the equivalency of 0^* and 0_{nL}, may become inappropriate or even perverse in effect, as e, s, p, and x change over time. Changing combinations of the latter elements will bring variations in 0^* and 0_{nL} and the slow to change regulative set, r, may become a less efficient equilibrator. The ability to increase the population of the intersection set is dependent upon the ability of r to relate to the current x, which causes the divergence. A slowly changing regulative set faces the probability of an incomplete set or a number of irrelevant members in dealing with the more rapidly changing factors affecting the intersection set. An obvious conclusion from this sequence of interrelationships is the necessity of a continual monitoring of the regulative set.


CONTROL
Minimize 0* - 0n.
INPUT
TRANSFORMATION
OUTPUT
The divergence between 0* and 0n
Regulatory set, r
The resulting set of output and input, 0nL
FEEDBACK

$0^* = f(e, s, p)$

$0_{nL} = f(e, s, p, x, r)$

$0_n = f(e, s, p, x)$

$0_{nL} = 0_n(t+1)$

See text for explanation of symbols.

FIGURE 1: A schematic of the banking regulative system.

The purpose of this thesis is to take these generalizations and to examine them within the framework of the banking industry in the state of Florida. In terms of the system's schematic (see Figure 1), what is desired is to activate the control element through an examination and analysis of the feedback. Such an examination will certainly require an identification of the optimal output-input set, 0*; the existing output-input set, 0_{nL}, and its determinants, e, s, p; the degree of divergence between 0* and 0_{nL}, x; and the current regulative set, r. The results of such an audit for Florida should be an evaluation of the existing regulative set as to how efficiently it is accomplishing its equilibrating task.

This study will be centered on those members of the regulative set which directly affect bank structure.[2] While a complete audit may be desirable, concentration on a limited number of members will allow a clearer identification of the output-input/regulation relationship. Further, those members of the regulative set which affect bank structure directly are controllable at the state level as opposed to national control of most other members. Thus any need for change in regulation that may be suggested by this study could be enacted by the Florida Legislature. The basic question to be examined is the appropriateness of Florida bank structure as prescribed by the existing regulative set. The hypothesis to be considered is that the existing regulative set as embodied in current structural regulations is doing a less than optimal job of equilibrating 0_{nL} and 0*.

A Model of the Optimal Structure

The first task which must be accomplished is an identification of 0* or the characteristics to be associated with the set of optimal output and/or input. These characteristics should be rather general in nature so that they may be used as a standard in a variety of specific situations where the underlying circumstances or environment differ. However, these characteristics must also be translatable into specific terms in order to determine to what extent an optimum-actual divergence is a function of an inappropriate regulative set.

From the relationships previously established, it follows that the set of characteristics consistent with 0* will also be consistent with the optimal structure, S*. Therefore, to define the set of desiderata associated with the optimal bank structure is to define the industry characteristics associated with the optimal output/input set, ceteris paribus.

There is, in the literature, a paucity of clearly documented conclusions regarding the nature of the optimal bank structure. However, most serious writers on the topic have had to grapple with this problem at some point in their exposition.

In 1911, Eckardt suggested that the optimal banking structure was the one which dealt most efficiently with "the security of deposits, the prevention of panics, and the provision of elastic currency."[3]

In response to the economic, social, and political conditions of the 1920 s, Southworth concluded that the desired bank structure would be the one which met the "evils of the existing system, i.e., frequent bank failures and economic inefficiency within the banks."[4]

Several years later, Beckhart suggested that to function well, financial institutions had to meet certain structural criteria:

> They must be able to provide facilities which are adequate to the growing needs and the changing requirements of an economy. They must be able to withstand shock and to sustain losses.[5]

In recent years, Congressional action in the passing of the Bank Holding Company Act of 1956 and the Bank Merger Acts of 1960 and 1966 has suggested another set of factors to be associated with the optimal structure. The criteria established by these Acts for evaluating merger and holding company applications are considered by some as the structural characteristics associated by Congress with the optimal set of output and/or input. The Bank Merger Act of 1960 summarizes these criteria as follows:

> In granting or witholding consent . . ., the Comptroller, the Board, or the Corporation, as the case may be, shall consider the financial history and condition of each of the banks involved, the adequacy of its capital structure, its future earnings prospects, the general character of its management, the convenience and needs of the community to be served. . . The appropriate agency shall also take into consideration the effect of the transaction on competition (including any tendency toward monopoly), and shall not approve the transaction unless, after considering all such factors, it finds the transaction to be in the public interest.[6]

Although the Bank Merger Act of 1966 shifted the emphasis somewhat, the 1960 criteria are still a fair measure of Congressional intent in this area. These factors can be further sorted and classed rather neatly under three headings: "needs and convenience factors," "banking factors," and "competitive factors." The optimal bank structure would be the one which could be associated with the optimal conditions in each of these areas.

Of course, the problem which arises in the use of these criteria is that of defining the subset of optimal conditions in each area. This enigma has forced the regulatory agencies to follow an interpretive policy and, as might be expected, there have been differing opinions as to how a proposed merger might affect optimality in the several areas of concern. In fact, as Hall and Phillips suggest,[7] this interpretive requirement has led to three different philosophies as to the optimal bank structure. The Comptroller has viewed the optimal structure as one that is "balanced in composition with some small, some medium-sized, and some large banks. The FDIC has taken the criteria of the Bank Merger Act to mean the optimal structure is the one with size homogeneity in order "to strengthen competition." The Federal Reserve Board has interpreted the criteria to mean an optimal structure is one which maximizes "the variety of banking services" offered to existing customers.

What is evidently needed is a more precise definition of the characteristics to be associated with the optimal banking structure. Such a definition requires cognizance of the existing social, political, and economic conditions as well as a visualization of the set of optimal output and/or input. The final listing of characteristics will embody varying degrees of value judgments depending on how extensively and/or analytically the total welfare function is developed.

Legislation enacted at the national level is or should be indicative of the existing social, economic, and political conditions and their relationship to some desired ends. The regulative set itself has the previously mentioned problem of lag and thus has limited value as an indicium. However, the hearings and/or preamble associated with the laws do contain specific indicators of what the laws were intended to achieve.

Thus banking legislation should indicate the optimal conditions which are sought and a survey of such laws and related hearings should produce a set of characteristics to be associated with the optimal bank structure. Such a survey was conducted and, while the resulting set still represents a large degree of interpretation and a number of value judgments, each member of the set has been endorsed by Congress, explicitly or implicitly, as a desired feature of the banking structure.[8]

Setting aside considerations derived from monetary policy, it appears that the optimal banking structure should be defined in terms of at least four desiderata.[9] First (not necessarily in order of importance) the optimal banking structure should be associated with maximum productive efficiency. In other words the industry is envisioned as operating somewhere on its product transformation curve and the price of intermediation (P_{It}) (output price-input price) could not be reduced by a change in structure (P_{It_n}).

$$P_{It} \leq P_{It_n}$$

Second, the optimal bank structure should be characterized by allocative neutrality. There should be nothing within the structural framework itself which would influence the pattern of allocation. Such neutrality would preclude the possibility of exploitation in either the input or output market. Third, the optimal bank structure would permit and encourage maximum responsiveness to changes in technology and/or consumer demands. The standard or measure that would be relevant would be the time-lag involved in a response to change and the degree of innovation apparent within the industry. As Greenbaum has noted, "maximum responsivity should be thought of as a first approximation to optimal responsivity, which in fact, may be submaximal."[10] Finally, the optimal bank structure should contribute to depositor protection against possible failure.[11]

With this set of characteristics, we have a rather broad-scale standard against which existing structures can be measured. Of course, what is lacking is a meaningful way of combining them so that situations which involve trade-offs can be evaluated and ranked in terms of their desirability relative to other situations.

One possible way this could be handled is by collapsing the several desiderata into a single objective function with the necessary constraints. Thus, an alternative policy goal that encompasses, to varying degrees, the general criteria previously established is the minimization of the price of intermediation. Within this context the price of intermediation[12] would be the difference between the price placed on the fund output of the bank and the price paid for the fund input.[13]

$$P_{Int} = \sum_{k=1}^{n} \sum_{j=1}^{m} (0_k P_{ok} - I_j P_{ij})$$

0 = output

I = input

P_o = price output

P_i = price input

Minimization of the price of intermediation coincides with the definition of productive efficiency as previously established. The optimal structure is that which minimizes the net social cost of intermediation. Productive efficiency is a necessity for an ongoing firm where the emphasis is on minimizing the spread between the two market prices. Continuing and/or profitable operations require the firm to seek the optimal combination of productive assets so that the differential is not totally dissipated in the other costs of the firm.

Minimization of the price of intermediation is basically the raison d'etre for the allocative neutrality criterion. In seeking a bank structure which is neutral in the allocative process and which avoids customer exploitation in all markets, it is evident the price intent is minimization of the total social cost or the input-output spread. It is at this point, however, that one of the constraints to the objective function must be introduced. While minimization generally assures lack of exploitation in the markets served, it does not assure participation in any given market. There may be some markets, input or output, in which society wants service regardless of the price effect on the objective function. Therefore, it is necessary to specify:

$$O_k > 0 \qquad (k = 1,2,3,4,\ldots\ldots n)$$

$$I_j > 0 \qquad (j = 1,2,3,4,\ldots\ldots m)$$

where k and/or j indicate the various markets or products which the banking industry services either in pursuit of increased net income or as a result of various forms of subtle social persuasion.[14]

The desideratum of responsivity to technological and demand-oriented change is also includable in the general objective of intermediation price minimization. Response to technological change is certainly consistent with the objective function. In fact, such response might well be considered an aspect of productive efficiency and the stimulus for the latter is therefore relevant to the former. Further, the responsivity that is sought here is the optimal level rather than the maximum level which may be non-contributing to the minimization goal.

Reconciliation of demand-oriented changes and minimization of the price of intermediation is more difficult. New demands considered socially desirable, which are not met through the normal allocative process, are generally the subject of some form of direct or indirect regulation. Where economic motivation and the minimization of intermediation price does not answer a demand-oriented change, then we must again consider the constraint to the model previously suggested (see page 20).

Finally, it should be recognized that the suggested objective may not be consistent with the safety of deposits criterion. In fact, if minimization of the price of intermediation is followed to its logical conclusion, the spread between input and output prices would be zero.[15] Bank failure would be a probability and deposit safety would deteriorate. It would appear, therefore, that this desideratum would require a constraint to the basic objective function such that:

$$P_{It} \geq E$$

where E equals that level of earnings necessary to produce a rate of return sufficiently high to minimize the probability of bank failure.

It appears, then, that it is possible to collapse the several criteria identified with the optimal bank structure into a single policy goal or objective function subject to some constraints. We take as our objective minimization of the price of intermediation.

$$(P_{Int}) = \sum_{k=1}^{n} \sum_{j=1}^{m} (0_k P_{ok} - I_j P_{ij})$$

Subject to:

$$0_k > 0$$

$$I_j > 0$$

$$\sum_{k=1}^{n} \sum_{j=1}^{m} (0_k P_{ok} - I_j P_{ij}) \geq E.$$

One additional point that should be observed in this model is that the oft-noted conflict between technological efficiency and allocative neutrality has been ignored in favor of concentration on market prices. Theory would generally suggest that the minimization sought would be most consistent with pure competition in both markets, subject to the constraint of deposit safety. The model attempts to avoid the trade-off question by accepting that banking structure which optimizes the objective function regardless of the ensuing market structure.[16]

In summary, this chapter has suggested the relationships between the optimal set of output/input, the extant set of output/input, and the regulative set. Using the optimal bank structure as a surrogate variable, a set of associated characteristics of the industry was developed. It was then suggested how these criteria might be collapsed into a single measure to permit analysis and measurement of existing output/input, structure, and regulations in a relatively straightforward manner. The criteria and resulting model will be used as benchmarks or general goals. They provide a framework for policy action and their usefulness is not contingent upon attainment. Their purpose is to indicate the direction policy should move in order to increase the members of the intersection set $0* \cap 0_n$.

NOTES TO CHAPTER II

1. P.M. Horvitz, Concentration and Competition in New England Banking, Research Report No. 2 (Boston: Federal Reserve Bank of Boston, 1958) p. 165. More recently S. Greenbaum noted, "I submit that ahat we want from the banking industry is not competition but performance." Federal Reserve Bank of Chacago, Proceedings of a Conference on Bank Structure, 1968 (Chicago: 1968), p. 122.

2. The structure of banking relates to aspects of the ownership, organization and control of the banking industry. It may include the number and size distribution of banks, the number of bank offices, and extent of holding company and chain banking, as well as other properties.

3. H.M.P. Eckardt, A Rational Banking System (New York: Harper & Brothers, 1911), p . 5.

4. S.D. Southworth, Branch Banking in the United States (New York: McGraw-Hill Book Co., 1928), p. 207.

5. B.H. Beckhart, "Criteria of a Well-Functioning Financial System," in Readings in Financial Institutions, edited by M.D. Ketchum and L.T. Kendall (Boston: Houghton Mifflin Co., 1965), p. 54.

6. Act of May 13, 1960, Public Law 86-463, 74 Stat. 129, 12 U.S.C. 1828 (c).

7. G.R. Hall and C.F. Phillips, Bank Mergers and the Regulatory Agencies (Washington: U.S. Board of Governors of the Federal Reserve System, 1964).

8. A number of laws and/or acts were perused in this process. Among the more important were: the McFadden Act of 1927, the Banking Act of 1933, the Bank Holding Company Act of 1956, the Bank Merger Act of 1960, and the Bank Merger Act of 1966. The compilation process included elimination and/or combination of redundant objectives as well as a casting out of those which have been superseded.

9. For a similar formulation see: S.I. Greenbaum, "Competition and Efficiency in the Banking System-Empirical Research and its Policy Implications," The Journal of Political Economy, Vol. 75, No. 4 Part II (August, 1967), pp. 461-478.

10. *Ibid.*, p. 462.

11. Some would argue that this factor should not be included among the desiderata. They contend that deposit protection has been provided for through deposti insurance and the Federal Reserve's willingness to function as lender of the last resort. This view holds that deposit protectionis, therefore, not a function of alternative bank structure.

The point of view here is that while it is certainly true that deposit insurance has provided a high degree of deposit protection, there are several other members of the regulative set, i.e., entry control, asset control, liability control, whose purpose is deposit protection. Many of these latter regulations impede the realization of other desiderata. If the optimal bank structure can contribute to deposit protection with little or no trade-off of the other desired factors, then it is possible some of the aforementioned "deposit-protection" regulations may be relaxed. This might permit such things as variable insurance rates or a relaxation of asset control, and the resulting output/input might draw closer to optimal as some of the required trade-offs are resolved.

12. Mote suggests an alternative policy of output maximization. However, this policy has particular problems dealing with the responsivity criteria and virtually ignores the input market. See: L.R. Mote, "A Conceptual Optimal Banking Structure for the United States," Proceedings of a Conference on Bank Structure and Competition, Federal Reserve Bank of Chicago, 1969, p. 25.

13. The input price is seen as the price paid, directly or indirectly, in the market place for the funds or "raw material" of the bank. It does not include the costs of land, labor, and capital used in the productive process.

14. This interpretation appears to be consistent with Shull's idea of banks as multiple-product price-discriminating firms. Banks are still envisioned as entering a variety of markets in a sequence approximating relative profitability. However, it is suggested that some market entry is by regulation rather than economic motivation. For Shull's approach see B. Shull, "Commercial Banks as Multiple-Product Price-Discriminating Firms," Banking and Monetary Studies, edited by Deane Carson (Homewood, Ill.: R.D. Irwin, Inc., 1963), pp. 351-368.

15. Such a situation would be similar to the extreme case suggested by Gurley and Shaw. Under such conditions, financial intermediaries would cease to exist, and the savings-investment process would proceed without intermediation. "Balanced budgets" would prevail or the surplus and deficit units would coincide in their needs and the need for transformation would be eliminated. See John G. Gurley and Edward S. Shaw, "Financial Intermediaries and the Savings-Investment Process," The Journal of Finance, Vol. XI, No. 2 (May, 1956), pp. 257-258.

16. If society has an objective, avoidance of market power, regardless of resulting price patterns, we might classify this as part of bank output, O_k, to which we can assign a price, P_{ok}, and thereby include in the minimization objective.

CHAPTER III

FLORIDA BANKING: THE CHANGING ENVIRONMENT

Application of the theoretical framework to a particular regulatory situation requires the development of a set of specific information. In investigating Florida banking as a particular regulatory situation, it is evident that the current environment as well as the past development must be made explicit. Within the general desiderata, there are local environmental influences which bear on the optimality of Florida bank structure. Further, the pattern of evolvement of Florida banking may reveal the rationale for the existing regulative set. The present task, then, is to trace the historical development of Florida banking and to establish the environment to which Florida banking must be responsive.

History of Banking in Florida

From the discovery of Florida in 1513 to the opening of the Bank of Florida at Tallahassee in 1828, financial activities were performed by trading houses and private firms. During this period of "changing flags," Panton, Leslie, and Company (later known as John Forbes and Company) was the dominant firm which filled what little need there was for the banking function. The Company served as "banker and factor to the resident planters and farmers with loans and credit for the purchase of slaves and promotion of agriculture."[1] The scarcity of population and the agrarian nature of the economy demanded little more.

As the population increased[2] during the Territorial Period (1828-1850), the Legislative Council chartered a number of banks.[3] Only three[4] of these were of any major importance and were endowed with the public credit through the issuance of "faith bonds" which were later repudiated. Each of these banks was authorized to establish branches. There is little doubt that these territorial banks made significant contributions to the development of the state. In the almost total absence of capital, it was their loans that allowed many planters to get land into production. However, their capital limitations as well as internal mismanagement led to an eventual universal failure in 1843. The banking experience of this period resulted in the inclusion of stringent bank regulations[5] in the first state constitution (1830).

These restrictive provisions drove public banking from Florida until 1855. During this period banking activities were carried on by agents of New York, Charleston, and Savannah banks. However, a renewed desire for local banking arose and in 1853 the state's first general banking law was enacted. Among its many stipulations were included provisions that note issuance was restricted to those obtained from the state in exchange for U.S. or state bonds and branches or agencies were to be allowed. Although this law mitigated many of the harsher features of the constitutional provisions, public banking was slow in developing and at the time Florida seceded from the United States in 1861, there were only three banks in operation.

Florida's participation in the Civil War was disastrous to the economy of the state and the unsettled conditions of the Reconstruction

Period were not conducive to economic rehabilitation. Business was virtually at a standstill and there was little need for bank services. The only banking institutions present during this period were private banks representing out-of-state interests.

The first national bank in Florida was opened in 1874. As economic conditions flourished, bank numbers increased so that by 1889 there were forty-five banks[6] in operation. A new general banking law for the state had been passed in 1868 and its severity continued to reflect the statewide reaction against and distrust of the banking business. So restrictive were the provisions of this law, only one bank (Key West) among those operating in 1889 had been able to acquire a state charter.

The apparent slow development of state banking was attributable, at least in part, to the harshness of the law. However, in 1889, the legislature passed a bill which liberalized the provisions considerably. Private banks were discouraged, capital requirements were lowered, and branch banking was again authorized. The passage of this law marked a new era in the history of banking in Florida. The industry enjoyed a period of uninterrupted growth so that by 1925 there were some fifty-nine national banks and 271 state banks.

In 1913, at the urging of the State Comptroller, who felt the existing statute was misleading, the banking laws were amended so that banks were restricted to a single place of business and branch banking was forbidden. This provision has been carried over into present law, but at the time of passage it was of little consequence for "only fifteen branches had ever been established and of these only eight were in operation in 1913."[7]

The deflation of 1926 signalled the downturn of the state's economy that was followed without respite by the national depression of 1929-1933. This period of almost a decade of economic stringencies took its toll on Florida's banking industry. The number of banks decreased from 336 with resources of $943 million in 1925 to 143 with resources of $212 million in 1933.

It was during this time, and somewhat in response to the problems of the period, that group banking emerged in Florida. While the laws stipulated one place of business per bank, nothing was said regarding the control of more that one bank by a single firm and/or person. The group movement gained impetus from the recognition that control of several banking units might furnish needed flexibility in times of financial crisis.[8]

Federal banking legislation enacted in 1933 and 1935 provided sweeping changes in national regulation. Among other basic changes was the provision that national banks with capital of $500,000 or more might engage in statewide branch activity in states permitting such operations or as permitted by state law. Florida laws were revised in accordance with the national legislation except that branch banking was not allowed.

This was the last major regulatory change at the state level and while Florida and Florida banking have grown and changed extensively since that date, the regulatory set has remained constant. Thus, the basic legislation shaping the structure of Florida banking is at least 30 years old and, in some respects, even older. It is evident that the regulatory features of Florida banking have been heavily influenced by the traumatic experience of the Depression. This

TABLE 1

DEVELOPMENT OF FLORIDA BANKING AND ITS CHANGING STRUCTURE

Dates	Dominant Banking Institutions	Regulative Atmosphere	Structural Regulation
1413-1828	Forbes & Co.	None	Unspecified
1828-1843	Territorial Banks	Liberal	Branching
1843-1853	Out-of-State Bank Agents (N.Y.,S.C.,Ga.)	Harsh-New State Constitution	Unspecified
1853-1861	State Banks	Some Liberalization; General Banking Laws	Branching
1861-1868	Out-of-State Bank Agents	None	Unspecified
1868-1889	National and Private Banks	Harsh-Difficult Chartering	Branching
1889-1923	State and National Banks	Liberalized	Branching; Unit (1913)
1925-1933	State and National Banks; Group Banks Developing	More Stringent	Unit
1933-1970	State and National Banks; Group Banks (1967-1970)	Little Change	Unit

immediate legacy is reinforced by the older heritage of the universal failure of "territorial banks". The reaction to these events has been heavily imprinted, not only in the law, but also in the people.

Our historical survey stops at this point for the regulatory aspects of Florida banking, particularly as applied to bank structure, have been somewhat static over the last fifty years. On the other hand, Florida has experienced extensive demographic and economic changes during this period. The environment in which Florida banks operate today and the financial needs to which they must respond are so radically different from those of 1913 and/or 1930, that a "regulatory audit" appears imperative.

Current Environment

While the intent of national banking legislation may be used as a surrogate variable for the existing social, economic, and political factors affecting the set of optimal output and/or input, the localization of banking regulation requires a more intensive look at the local environment to determine the population of the intersection set. Banking regulation permits structural specification at the state level and full knowledge of the coincidence between the optimal and actual set of banking input and/or output in Florida requires some knowledge of the specific environment to which Florida banking should be responsive.

One of the dominant characteristics of the Florida environment is the rapidly changing demography. In fact, one of the keys to the scope of the problems faced by the banking industry in Florida lies in the rate of population growth since 1900. Reference to the census tables reveals that Florida has moved from a state with just over a half-million residents and thirty-third in population size in 1900 to over six million residents and ninth in size in 1970. Florida led the nation in rate of growth from 1950 to 1960 with an increase of 78.7 percent. Since 1960, the state's population has increased by more than one million at an annual average rate of 3.7 percent, exceeded only by Nevada (7.19%).

It is significant to note that this population increase exhibits characteristics consistent with an area of continuing growth. A state's population may increase by migration and/or by the natural gains of its residents. Rapidly growing states can achieve their high rates only by adding large net migration gains to their natural increase. It is this pattern that Florida has recently followed, as the census figures show that of the 942,000 persons gained from 1960 to 1966, 61 percent resulted from migration and 39 percent from natural increase. This is in contrast to the period 1910-1919, when some 53 percent of the total population change of 215,800 was a result of natural increase.

Another view of Florida's demographic changes reveals a continuing urbanization as the percent of total population living in urban areas has increased from 29 percent in 1910 to 76 percent in 1970 (Table 3). The specifics behind this pattern are particularly relevant to the structure of the banking industry. The discernible growth pattern followed is not the pattern of other states where commerce and industry were the causes of such concentration. Florida urbanization is primarily residential with industry and commerce

TABLE 2

TEN LARGEST STATES, POPULATION AND BANK STRUCTURE, 1970

State	Population	Bank Structure
California	19,953,134	Branching
New York	18,190,740	Limited Branching
Pennsylvania	11,793,909	Limited Branching
Texas	11,196,730	Unit
Illinois	11,113,976	Unit
Ohio	10,652,017	Limited Branching
Michigan	8,875,083	Limited Branching
New Jersey	7,168,164	Limited Branching
Florida	6,789,443	Unit
Massachusetts	5,689,170	Limited Banking

Source: U.S. Census of the Population: 1970.

TABLE 3

POPULATION AND URBANIZATION, FLORIDA, 1900-1970

Year	Population	Percent Increase	Persons in Places of 2,500 or More	Percent of Total Population
1900	528,742		132,185	25
1910	752,619	42.4	224,077	29
1920	968,470	28.7	353,315	36
1930	1,468,211	51.6	759,778	51
1940	1,897,714	29.2	1,045,791	55
1950	2,771,305	46.1	1,566,788	56
1960	4,951,560	78.7	3,666,383	73
1970	6,789,443	37.1	4,900,000(est.)	76

Sources: U.S. Census of the Population: 1960; Statistical Abstract of the United States: 1970; U.S. Census of Population: 1970.

a secondary role. The latter have followed population rather than the traditional sequence. Further, Florida has reached the upper ranks of urban states[9] without the aid of large cities and with the seven largest (over 100,000 in population) comprising less than 13 percent of the state's total population.[10] Statistical investigation reveals that these distinctive characteristics are the resultant of two facts.

1) Most of Florida's cities are of relatively small size, that is, in the size range of 2,500 to 75,000 population;

2) A high proportion of the urban population lives in "suburbia," that is, adjacent to, but outside, the corporate limits of a large city. Florida actually has a higher proportion (38 percent) of population living in these urban fringe areas than does New York.

The relatively dispersed nature of the state's population is further emphasized when we examine the figures for Standard Metropolitan Statistical Areas. In 1970, Florida's most populous SMSA, Miami,[11] was twenty-sixth in size in the United States. Several states, with smaller total populations, had metropolitan areas which ranked higher due to greater population concentration.

In summary, we see that population growth in Florida displays unique characteristics to which the banking industry must be responsive. The rapidity of growth, its migratory nature, and the evolving urban pattern are all post-1913 characteristics which put special demands on the banking structure.

Florida's economic structure has also undergone a major evolution during the last sixty years. In Rostow's terms it would appear that Florida was largely a "traditional society"[12] up until the early 1900s. In its economic and social dimensions it was largely an extension of the "Old South". Even the basic industry, agriculture, lagged behind the nation in the application of science and technology. Florida had few, and inadequate, railroads in a period when railroads were perhaps the single most important factor in the economic expansion of the country. Florida lacked public utilities, roads, harbors, and even local industries to supply local needs.

The period, 1900-1960, can be seen as stages two and three of Rostow's stages of economic growth. The pre-conditions for take-off began to develop, "not endogenously, but from the advanced society."[13] The climatic appeal of Florida increased immigration rapidly in the early 1900's and the idea spread that economic progress was not only possible but necessary for the general welfare of the state. The latter part of this period saw the old blocks and resistances to steady growth overcome as immigration continued to grow rapidly. This "take-off stage" was characterized by a relatively narrow economic complex, focusing primarily on agriculture and the tourist trade.[14] The momentum of this period allowed the state to open its "drive to maturity" in the 1960s.

The economy of Florida today bears little resemblance to the "traditional society" of the early 1900s. The economy has broadened its focus of the take-off period and has extended its range into more refined and more complex processes. Maturity is demonstrated in an economy, according to Rostow,

> When it shows the capacity to move beyond original industries which powered its take-off and to absorb and apply efficiently over a wide range of resources the most advanced fruits of modern technology.[15]

It appears that Florida has entered such a stage. The economic base has broadened considerably and the structural framework now encompasses a multitude of endeavors. Growth has been experienced from the application of the latest technological advances in electronics and rocketry and the dominance of agriculture and tourism has receded. The major economic sectors of Florida are now wholesale and retail trade, service trades, manufacturing and government payments.

In examining this base, employment data are among the best indicators of the relative importance and size of the different sectors. By using percentage distribution, we can make direct comparisons with the United States as a whole.

TABLE 4

PERCENTAGE OF TOTAL EMPLOYED WORKERS BY MAJOR INDUSTRY GROUP IN FLORIDA AND THE UNITED STATES, MARCH, 1968

Industry	Florida	United States
Total Employed	2,058,280	70,631,000
Agriculture	6.0	5.2
Mining	0.4	1.0
Construction	6.8	4.6
Manufacturing	14.9	27.4
Transportation, Communications and Public Utilities	6.6	6.1
Trade, Wholesale, and Retail	24.7	19.4
Finance, Insurance, and Real Estate	5.4	4.3
Services	16.9	14.6
Government	18.1	17.3

Source: Florida Statistical Abstract, 1969; Statistical Abstract of the United States, 1968.

It is apparent that Florida employment distribution differs markedly from that of the rest of the country (Table 4). In Florida, construction, trade, and services are significantly larger sources of employment than nationally; whereas the proportion employed in manufacturing is about one half the national figure. The total employment in these four industry groups accounts for more than 75 percent of all employment in Florida. The 1910 figures for Florida, while not directly comparable because of changes in sector classifications, do show some wide differences. Agriculture predominated at that time with a claim on 43 percent of the work force while trade and transportation together used only 15 percent.[16]

Another useful approach in examining the economic fabric of a state is to consider income in terms of its sources and the state's per capita position. Again, a quick comparison shows there are significant departures between Florida and the United States in percentage distribution. As in employment, Florida shows a greater fraction derived from construction, finance, trade, services, and government than nationally. Conversely, the percentage attributable to manufacturing is less than half that of the nation (Table 5).

The emerging structural pattern is reaffirmed when we note the distribution of income according to type (Table 6). In Florida, the portion taking the form of wages and salaries is less than in the nation. On the other hand, property income and transfer payments are both a larger fraction of the whole in Florida.

One additional dimension of the economic structure is per capita income. Florida has consistently had per capita income that is below the nation's average. While there has been an improvement since 1920, the state's economic growth in the last fifteen years

TABLE 5

PERCENTAGE DISTRIBUTION OF PERSONAL INCOME - WAGE AND SALARY DISBURSEMENTS - BY MAJOR SOURCES, FLORIDA AND UNITED STATES, 1968

Industry	Florida	United States
Total (millions)	$12,107	$ 460,727
Farming	1.5 %	0.6%
Mining	0.5	1.1
Construction	7.5	5.8
Manufacturing	16.9	31.7
Trade, Wholesale, and Retail	20.1	16.4
Finance, Insurance, and Real Estate	5.7	4.8
Transportation	5.3	4.7
Communication and Utilities	2.9	2.8
Services	15.6	12.1
Federal Government (Civilian and Military)	10.5	8.3
State and Local Government	12.9	11.6
Others	0.4	0.2

Source: Statistical Abstract of the United States, 1970, p. 318.

TABLE 6

PERCENTAGE DISTRIBUTION OF PERSONAL INCOME, BY CLASS, FLORIDA AND THE UNITED STATES, 1968

	Net Wages & Salaries	Other Labor Income	Proprietor's Income	Property Income	Transfer Payments
Florida	61.7	2.7	9.5	17.7	11.3
United States	67.4	3.5	9.3	14.4	8.6

Source: Statistical Abstract of the United States, 1970, p. 318.

has not been sufficient to close the gap. It is apparent that mere growth, whether in numbers of people or in employment, cannot be equated with economic development, a basic measure of which is the level of income reached. Florida's rapid advance in population (ninth in the nation) has not been accompanied by a like growth in per capita income (twenty-eighth in the nation).[17]

TABLE 7

PERSONAL INCOME PER CAPITA,
FLORIDA AND THE UNITED STATES,
SELECTED YEARS, 1950-1969

Year	Florida	United States	Florida as a % of U.S.
1950	$1281	$1496	86%
1955	1621	1876	87
1960	1954	2215	89
1965	2438	2760	88
1966	2614	2963	88
1969	3427	3680	91

Source: Statistical Abstract of the United States, 1970, p. 320

The broad sweep of aggregate employment and income figures tends to obscure industry composition. The dominance of certain industries in Florida's economic structure compels us to examine their make-up more closely.

Manufacturing

The Census of Manufacturers showed that Florida had some 7,500 manufacturing establishments in existence in 1966. Since 1958 the number of establishments had increased 17 percent while payrolls and value added by manufacture had more than doubled, increasing

109.9 percent and 108.3 percent respectively. Although this rapid rate of growth is impressive, manufacturing continues to trail trade, government, and services in the generation of personal income and/or employment in the state.[18]

The increasing significance of the manufacturing sector has been accompanied by a marked change in the makeup of the predominant industries. The Census of Manufacturers of 1914 reveals that some 60 percent of total wage earners employed in manufacturing worked in lumber and timber (28.3%), tobacco and cigars (16.6%), and turpentine-rosin (15.8%). These industries plus ship-building-steel accounted for almost 70 percent of value added.

Today, the three groups of manufacturers foremost in Florida as measured by value added by manufacture are food and kindred prodcts, chemicals and allied products, and paper and allied products (see Table 8). Although not among the above, electrical machinery has been the most rapidly growing category, experiencing a 482.2 percent increase in value added and 506.9 percent increase in payrolls since 1958. Over the same period of time, lumber and wood products and tobacco manufacturers have experienced declines in payroll of 17.9 and 27.8 percent, respectively.

Another significant change in the characteristics of the manufacturing sector over the last 50 years has been the average size of the firm. The average firm in 1914 employed less than 15 employees and produced products valued at $32,000. The average Florida manufacturer in the 1960's employed more than 30 people and added values of over $350,000 to the final products.[19]

TABLE 8

GENERAL STATISTICS ON MANUFACTURING, BY MAJOR INDUSTRY GROUP, IN FLORIDA: 1958 AND 1966

	Number of Establishments		
Industry Group	1958	1966	%incr.
All Industries Total	6304	7406	17.5
Food and Kindred Products	904	895	(-)1.0
Chemical and Allied Products	291	390	34.0
Paper and Allied Products	86	112	30.2
Printing and Publishing	761	1016	33.5
Electrical Machinery	122	243	99.1
Stone, Clay, and Glass Products	590	610	3.4
Fabricated Metal Products	540	687	27.2
Transportation Equipment	292	394	34.9
Machinery Except Electrical	353	516	46.2
Others	2365	2543	7.5

	Payrolls ($1,000,000)		
Industry Group	1958	1966	%incr.
All Industries Total	656	1444	109.9
Food and Kindred Products	130	191	46.6
Chemical and Allied Products	65	121	84.7
Paper and Allied Products	64	104	63.2
Printing and Publishing	58	99	68.9
Electrical Machinery	22	137	506.9
Stone, Clay, and Glass Products	46	68	46.6
Fabricated Metal Products	58	106	82.1
Transportation Equipment	41	146	252.2
Machinery Except Electrical	16	58	253.5
Others	151	408	170.1

	Values Added by Manufacturers ($1,000,000)		
Industry Group	1958	1966	%incr.
All Industires Total	1410	2938	108.3
Food and Kindred Products	321	521	61.9
Chemical and Allied Products	233	403	72.9
Paper and Allied Products	151	291	92.2
Printing and Publishing	103	197	90.2
Electrical Machinery	37	218	482.4
Stone, Clay, and Glass Products	105	163	54.4
Fabricated Metal Products	104	213	103.4
Transportation Equipment	56	209	270.4
Machinery Except Electrical	27	92	234.7
Others	267	627	134.3

Source: Census of Manufacturers, 1958 and 1963: Florida Statistical Abstract, 1970.

Agriculture

Personal income directly attributable to agriculture has diminished in importance since the early 1900s and now constitutes less than 5 percent of the state's total. However, it should be noted that the manufacturing process involving food and kindred products is the major manufacturing category.

Citrus is the state's most valuable crop. The 650,000 acres of bearing groves comprise about 71 percent of the nation's citrus acreage and provide some 75 percent of the total production. In terms of value or cash receipts, citrus was by far the predominant commodity in 1970, returning $259 million[20] or about 35 percent of total agriculture receipts. Other important commodities include tomatoes, sugarcane and livestock.

The scale of Florida farming is typically large and has been getting larger over time. The average farm of 1910 had 105 acres and produced products valued at $1,000. The average farm of the 1960s contained more than 590 acres and realized products valued at more than $40,000.[21]

The average size of a Class 1 commercial farm,[22] which accounted for more than 70 percent of total product value, was 2,294 acres. The relative size of Florida farms is further demonstrated by the fact that Florida has the fewest number of farms in the Southeast, but its estimated average net income per farm is the highest in the group.

Wholesale and Retail Trade

In comparison to other major indistry groups, employment in Florida is heavily oriented to trade. Employing 508,300 workers in

1962,[23] wholesale and retail trade constituted the largest employing industry group in the state (25 percent of total employed workers). The increasing importance of this sector can be seen by comparing the 1910 figures which show less than 10 percent of the total employed workers in this industry.

The $10.3 billion of sales reported for the 9650 wholesale establishments in the 1967 Census of Business was an increase of 39 percent over 1958. The average firm was substantially larger than the wholesaler of the early 1900's with sales of over $1,000,000 per establishment as compared to some $200,000 per firm in the 1920's.[24] Groceries and related products ranked first both in number of establishments (1945) and total sales ($2.4 billion). Motor vehicles and automotive equipment ranked second while machinery, equipment, and supplies were third. It should be noted that there is no necessary relationship between wholesale and retail sales; many wholesale sales are to other than retailers and conversely many large retailers by-pass the wholesaler.

In 1968 Florida's retail sales amounted to over $12.3 billion, an increase of some 60 percent over the 1963 figure. The average firm was substantially larger than the retailer of the early 1900's with sales of over $175,000 per establishment as compared to $22,000 per firm in the 1920's. In addition, the one-store retailer accounted for 85 percent of the total firms in 1929 and 70 percent of total sales. However, the dominance of the one-store retailer has declined and in 1967 he accounted for 80 percent of all firms but only 54 percent of total sales. Of increasing importance, particularly, in food and department stores, was the large interstate chain, claiming some 36 percent of total retail sales.[25]

In 1968 the two kinds of businesses leading in sales volume were food stores with sales of over $2.6 billion and automotive dealers with sales of $2.5 billion. If the sales of eating and drinking places are added to those of food stores, and if the gasoline service station figures are included with those of the automotive group, the resulting figures together account for well over half of all retail sales ($6.9 billion in 1968).

The large concentration of workers in the trade area appears to be due, at least in part, to the magnitude of the state's tourist industry. With 21 million tourists coming to Florida annually, the demand for trade establishments continues to be high. However, while employment in this area continues to grow, its proportion of total employment has experienced a slight decline since 1958. The cause of this shift appears to lie in the fact that although tourism continues to increase, other elements of Florida's economy have been growing even more rapidly.

Services

The service industry group, which employed some 348,400 workers during 1968, continues to be of growing importance to Florida's economy, second to trade, only, in numbers employed. This industry experienced an increase in employment of 83.9 percent since 1958 and is one of Florida's most rapidly expanding industry groups. Included in this group are doctors, lawyers, accountants, and others furnishing professional services as well as those employed in establishments engaged in personal and repair services such as hotel and restaurant workers, radio and television repairmen, and persons working in amusement and recreational activities. The increasing levels of employment in this industry group have not substantially altered the position of this sector in terms of percentage of total workers employed. The 1910 figure of 17.3 percent (1968 - 16.9 percent) suggests that,while the number in the industry has grown in response to population changes and an increasing tourist trade, its relative importance has been fairly static. However, the relative size of the firms grouped in this classification has increased over the years so that the average firm, which produced services valued at $9,000 in the 1930's, now generates some $50,000 in services during the year.[26]

In the "selected services" group[27] surveyed in the 1967 Census of Business, we find that hotels, motels, and tourist courts generated some 25 percent of the total receipts attributable to the industry group, followed by miscellaneous business services, and personal services. Again we see the influence of tourist expenditures which have pushed the "room rental" business to the predominant position in selected services.

One of the difficulties in trying to establish a precise definition of Florida's economic environment is the presence of a large and significant tourist industry. While this industry is no longer as absolutely dominant as it once was, it still plays a major part in Florida's economic health. However, tourist expenditures are not easily segregated and the survey methods presently used are gross estimates of the impact of this spending sector. Of the estimated $5.5 billion spent by tourists in Florida in 1968, $3.2 billion or 60 percent was spent on services (lodging, food and drink, amusements, etc.) and $1.7 billion or 32 percent was spent at various wholesale and/or retail establishments. The pervasive nature of the tourist industry, especially in trade and services, and the presence of some 21 million visitors in the state annually suggests that changes in this industry could have a substantial impact on Florida's economic environment.

In summary, the regulative set which now determines banking structure in Florida was drawn up in 1913.[28] Its equilibrating task was defined by an economy which was largely "traditional". Population was relatively small and widely dispersed with less than 29 percent in urban areas. Population growth was slow and immigration accounted for less than 50 percent of this. Agriculture was by far the principal industry (43 percent of the work force) and what little manufacturing was present was concentrated in lumber and timber.

The same regulative set is attempting the equilibrating task in today's economy. These regulations, developed to meet the demands of the 1913 environment, now attempt to enlarge the population of the intersection set in a totally different environment. Population is among the largest in the nation (ninth) and is growing rapidly. Population density has increased with 76 percent located in urban areas and more than 50 percent of the increasing population represents immigration. The economy has matured and the structural base has broadened considerably. The seasonal nature of the traditional economy has been tempered as Florida's increasing urban market has brought her economic structure closer to that typical of the nation. Today's employment and income figures indicate the emergence of the service and trade sectors as major contributors as agriculture has receded in importance. Further, the size of the average business unit has increased in all sectors of the economy. After adjustment for price changes,[29] the firm of the 1960's ranges from four (wholesale) to twenty (agriculture) times as large as its 1910 counterpart.

Despite lagging per capita income, the dynamism generated principally by the population expansion presents a definite challenge to Florida banking. Postwar economic expansion in the state has seen nonfarm employment expand at a rate of 6 percent annually while personal income has increased at an annual rate of 10 percent. These figures, among the highest in the nation, are indicative of the demands that must be met. Is the given regulative set, conceived in a distinctly different environment, the most efficient equilibrator?

NOTES TO CHAPTER III

1. J.E. Dovell, History of Banking in Florida (Orlando, Fla: Florida Bankers Association, 1955), p. 5.

2. In 1825, the time of the first state census, the population stood at 13,554 and by 1830 had more than doubled to a total of 34,730.

3. The term "commercial banks" and the word "banks" shall be used interchangeably to refer to those institutions which accept demand deposits and whose liabilities circulate as money.

4. They were the Bank of Pensacola, the Union Bank of Florida (Tallahassee), and the Southern Life Insurance and Trust Company (St. Augustine).

5. See Dovell, p. 37, for a complete list.

6. Thirteen of these were national banks, two were operating under legislative charter, one was organized under the 1868 banking law. and the remainder were private banks.

7. H.B. Dolbeare, "A Record of Fifty Years of State Banking in Florida," Annual Report of the Comptroller of the State of Florida. 1940 (Tallahassee, 1941), p. 10.

8. In 1925, the first addition to the Atlantic National Group was made and by 1931 it included nine banks. The Barnett Group made its first acquisition in 1929 and by 1931 included four banks. Also in 1929, the Florida National Group made its first addition and by the latter date included seven banks.

9. Among the ten largest states, the 1960 census shows Florida, with 73.9 percent, had a higher urban population than Pennsylvania, 71.6 percent, Ohio, 73.4 percent, or Michigan, 73.4 percent.

10. These cities and their populations are: Jacksonville, 528,865; Miami, 334,859; Tampa, 277,767; St. Petersburg, 216,232; Fort Lauderdale City, 139,590; Hollywood, 106,873; Hialeah, 102,297. See U.S. Census of Population: 1970, Washington, D.C., 1970.

11. Although the city of Jacksonville has a greater total population than Miami (528,865 vs. 334,859), the Miami SMSA population exceeds that of the Jacksonville SMSA (1,267,792 vs. 528,865). This is due to the fact that the Miami SMSA includes all of Dade County and several communities not included in the city total such as Hialeah and Miami Beach. However, the Jacksonville city figure encompasses all the population in its SMSA area (Duval County).

12. W.W. Rostow, *The Stages of Economic Growth, A Non-Communist Manifesto* (London: Cambridge University Press, 1966). Rostow defines a traditional society as one in which "a ceiling exists on the level of attainable output per head." According to Professor Rostow,"This ceiling resulted from the fact that the potentialities which flow from modern science and technology were either not available or not regularly and systematically applied."

13. *Ibid.*, p. 6.

14. For an interesting discussion of the intervening period and causes of the change in economic structure see John N. Webb, "Florida's Expanding Economy," *Economic Leaflets* (Gainesville, Florida: University of Florida, Bureau of Economic and Business Research, March, 1962).

15. Rostow, p. 10.

16. W.M. Nelson, *The Economic Development of Florida, 1870-1930*, master's thesis, University of Florida, Gainesville. Florida, June, 1962, p. 79.

17. It has been contended from time to time that Florida income levels are lowered by the large number of retired residents. That this element is not the dominant influence is shown by the fact that median earnings in 1960 of men in the experienced labor force were $3,811 in Florida compared with $4,595 for the nation. See U.S. Bureau of the Census, *U.S. Census of the Population: 1960* (Washington, D.C.: 1962).

18. See Tables 3 and 4.

19. *Abstract of the Census of Manufacturers, 1914*, U.S. Bureau of the Census, 1971; *Florida Statistical Abstract, 1970*. Bureau of Economic and Busniess Research, University of Florida, 1970.

20. *Florida Statistical Abstract, 1970*, p. 263.

21. U.S. Bureau of the Census, *Abstract of the Thirteenth Census of the United States* (Washington, D.C.: 1913); *Florida Statistical Abstract, 1970.*

22. A Class 1 commercial farm is defined by the Census of Agriculture to be one whose value of product sold amounts to $40,000 or more.

23. "Non Agriculture Employment in Florida: Growth and Development, 1958-1968," *Florida Comments*, an undated publication of the Florida Development Commission, Tallahassee, Florida, p. 2.

24. U.S. Bureau of the Census, *Abstract of the Fifteenth Census of the United States* (Washington, D.C.: 1933). It was not unitl this census (15th) that wholesale and/or retail data were collected and reported. Also see *Florida Statistical Abstract, 1970*.

25. Census of Business, 1967, Retail Trade, Single Units and Multi-units, Vol. 1, Part 1; Fifteenth Census of the United States, Retail Distribution, Vol.1, Part 1.

26. Census of Business, 1948, Vol. VII, Service Trade-Area Statistics, Bureau of Census, 1951; Florida Statistical Abstract, 1970.

27. Selected services as surveyed by the Census of Business exclude professional services as well as private household services.

28. The regulative statement requiring unit banking is found in Florida Statutes, 1965, Chapter 659.06, and reads as follows:

> Any bank or trust company shall have only one place of doing business, which shall be located in the community specified in its original articles of incorporation, and the business of the bank or trust company shall be transacted at its banking house so located in said community specified, and not elsewhere.

29. For sake of comparison,the recent sales or value added figures were deflated by use of the appropriate price indexes, i.e., Wholesale Price Index, Consumer Price Index, Retail Price Index, etc. See Statistical Abstract of the United States: 1970, pp. 339-349.

CHAPTER IV

FLORIDA BANKING: MARKET STRUCTURE

An audit of the Florida banking regulatory set must be in terms of how well this set accomplishes its equilibrating task. The characteristics to be associated with the set of optimal output and/or input have been previously suggested. In addition, the peculiarities of the local (Florida) environment have been explored. The next task must be an identification of the characteristics of current Florida banking and how these relate to the optimal set.

Market structure will be viewed as a separate and identifiable subset of the universe of characteristics associated with Florida banking. Special interest is given to this particular subset for two reasons. First, many aspects of banking regulation are focused on some desired market characteristics, i.e., increased competition or a low level of market power, rather than on the characteristics of the set of output and/or input. Secondly, economic theory holds that the market structure of an industry influences the performance of firms within the industry. While the model being used is non-prescriptive as to the optimal market structure, the latter may be viewed as a surrogate variable for such desideratum as allocative neutrality.

However, an investigation of the market structure of Florida banking requires a preliminary discussion of bank markets in general.

The unique nature of banking has given rise to several different definitions of bank markets and an examination of these alternatives should lead to a better understanding of Florida bank markets and the related regulatory set.

Bank Markets

Explanations and definitions of bank markets cover a wide spectrum of possibilities. The literature suggests interpretations which range from multi-area, multi-product possibilities in both the input and output market to the uni-product, uni-area focus of the courts in the Philadelphia-Girard Case.[1] While a complete survey would include an investigation of the intermediate points of view it appears reasonable, for purposes of this thesis, to concentrate on the polar positions.

Multi-Product, Multi-Area Approach

In this analysis banking is viewed as a multi-product, multi-area activity in both the input and output market. Banking, in its intermediation role, is seen as seeking and acquiring various kinds of fund inputs from a variety of geographical areas. These inputs are then put through a "productive process" and are thereby transformed into an assortment of final products with a number of different geographical markets.

The market-type or structure prevalent in any given market is a function of the nature of the product, the geographic range of the product, and the resulting institutional range of competition. Thus any discussion of bank markets under this interpretation requires a specification of the product and geographical area.

Reference to Table 9 suggests the several product-area market combinations in which the bank may find itself involved. Within the input market, the liquidity characteristics of the funds demanded are a major determinant of the range of institutional competition. Commercial banks have an advantage in the demand for funds requiring high liquidity and the unique nature of the compensation offered by commercial banks[2] assures the deposit of such funds in the banking system. However, the total amount of funds requiring immediate liquidity tends to vary with the intensity of the bidding of all financial institutions for such funds. The *de facto* demand nature of alternatives such as savings accounts and government securities, has given the offerees additional flexibility. When bidding for such funds increases the rates offered, the holders have been able to engage in a successful liquidity-profitability tradeoff while meeting their continuing transaction needs with increased velocity.[3]

The other major fund input demanded by banks are those which are less volatile and could be characterized as "store of value" funds by the offerees. In competing for this input, commercial banks have no form of compensation superior to other financial intermediaries. Further, as the liquidity requisite placed on the funds is relaxed, more and more deficit units are drawn into direct negotiations with the fundholders or surplus units, so that the institutional participation in this market is more extensive than is found in the highly liquid market.

TABLE 9

BANK MARKETS: PRODUCTS, GEOGRAPHIC RANGE AND PARTICIPANTS

Product	Geographic range of the Market	Participants in the Market
	INPUT MARKET	
Large units of highly liquid funds	National	Large organizations;* large commercial banks.**
Medium size units of highly liquid funds	Regional	Medium-sized organizations and wealthy individuals; large and medium-sized commercial banks.
Small units of highly liquid funds	Local	Small organizations and most individuals; small, medium and large commercial banks.
Large units of time funds***	National	All surplus units large enough to produce such a product, large financial intermediaries as well as the deficit units found in the open money market.
Medium-sized units of time funds	Regional	Medium-sized surplus units: large and medium-sized financial intermediaries as well as large and medium-sized deficit units.
Small units of time funds	Local	Small surplus units; local financial intermediaries of all sizes as well as all deficit units.

*Those participants listed first are on the supply side of the market.

**Those participants following the semicolon are on the demand side of the market.

***Time funds are those funds whose liquidity time dimension is greater than zero.

TABLE 9 (Continued)

Product	Geographical Range of the Market	Participants in the Market
	OUTPUT MARKET	
Investment funds*	National	All forms amd sizes of financial intermediaries and surplus units; large deficit units such as local, state, and national government, and large corporations.
Large business loans**	National	Large financial intermediaries and surplus units; large business organizations.
Medium-sized business loans	Regional	Large and medium-sized financial intermediaries, some surplus units; medium-sized business organizations.
Small business	Local	Local commercial banks and commercial finance companies; small business organizations.
Consumer loans***	Local	Local commercial banks, sales and consumer finance companies, savings, and loan associations; individuals for purchase of real or personal property.

*Investment funds include those funds placed in the credit instruments of enterprises, both public and private. Investments differ from loans in several respects. In the first place, a loan is generally a relatively short term fund placement whereas an investment has a longer time horizon. Secondly, in bank lending, the borrower usually initiates the transaction, but in investing the bank takes the initiative by entering the market to make purchases or sales. Thirdly, in lending, the bank is normally the major creditor and one of only a few creditors, while in investing the bank is one of many creditors. Finally, in the lending transaction there exists a personal relationship between the bank and the borrower, while investing is an impersonal matter.

Investments also include the placement of secondary reserves in the money market. However, the primary difference between these investments and those previously mentioned is in maturities. Otherwise, they are differentiated from loans in the same way. For a further discussion of the characteristics of this output see Reed, E.W., Commercial Bank Management (New York: Harper & Row, 1963), pp. 419-468.

TABLE 9 (Continued)

** Such loans include both short- and long-term loans as well as mortgages. These may be handled as three separate products. However, for brevity's sake, they have been grouped into a single product-type.

***Loans to consumers are those loans made to borrowers, the proceeds of which are used for consumption. This is in contrast to business loans whose proceeds are used for productive purposes. Consumer loans make possible the consumption of goods and services before the consumer has the wherewithal. These loans may be made for a multitude of purposes to include the purchase of automobiles, appliances, furniture, homes, etc.

There are at least three geographical markets associated with each of the input groups suggested. The market areas identified are a function of the fundholder's ability or willingness to restict his search for alternatives and the banks' ability to meet the demands of the fundholder. The national market for the highly liquid funds is supplied by large surplus units such as corporate fundholders whose fund output is sufficient to justify national "shopping" for the best offering. The demanders are those banks whose position, resources, and/or output potential are most attractive to the fund supplier.

On the regional level, the suppliers of these funds are smaller surplus units such as medium-size firms and wealthy individuals. Such units do not have sufficient fund output to justify participation in the national market and yet they are large enough not to be bound locally by convenience. The demanders are all the banks in the larger market plus those somewhat smaller banks whose position, resources, and/or output are sufficient to meet the demands of the fund suppliers.

On the local level,[4] the suppliers of these funds are business firms and individuals whose balances do not warrant regional "shopping". Moreover, the decision as to fund placement in this market appears to be more heavily weighted by the factors of convenience and ease of access than in the larger markets.

This decreased emphasis on size-related services in the local market allows for universal bank participation, regardless of size. On the other hand, the number of participants in any specified market is limited by the demand for convenience. The locale emphasis effectively erects a spatial barrier so that the demanders in the local market are limited to those readily accessible to the designated populace.

The national market for the less volatile, store of value funds, finds on the supply side all who would furnish funds in the money or capital markets. This market is generally non-discriminating and would encourage fund input, regardless of size. On the demand side, the relevant insitutions are those financial intermediaries and deficit units which are large enough to meet the risk/return demands of the offerees.

The regional and local markets tend to overlap as the fundholders include the entire range of surplus units and the demanders include a wide range of financial intermediaries as well as some deficit groups. Demanders at the regional level are a function of their ability to meet the risk/return requirements of the larger fundholders. At the local and regional level, financial institutions are joined on the demand side by other national financial intermediaries as well as deficit units in both the money and capital markets and are active demanders of "store of value" funds.

This multi-area, multi-product approach to bank markets identifies the same sort of proliferation in the output market. In fact, Chandler suggested that the number of different products in the bank's output mix was a function of the number of different bank loans, each one of which was a unique product of bargaining.[5] Certainly, bank output can be separated into at least three general lines - investments, consumer loans, and business loans.

The market for bank investment purchases is simplified by the various legal restrictions placed on bank investments. The conservative nature of existing regulations virtually assures the analyst that bank output made available to security issuers or holders will be restricted to markets that are national in scope and/or highly liquid. The 13,000 commercial banks are only one of many sources of funds for U.S. securities, high grade state and local obligations,[6] and premium corporates. The geographical compartmentalization noted in the input market is virtually non-existent and the participants are numerous.

On the other hand, the customized nature of bank loans reaffirms the multi-area, multi-product possibility. The funds made available for "wholesale" or business loans are not used for consumption directly but enter into the productive process. Cost considerations tend to override the demand for convenience and the geographical boundaries of any given market are normally delineated by the size of the borrower and the set of banks which can supply the output with the characteristics demanded.

The large business loan is found in a national market where product specification is such that only large participants are found on both sides of the transaction. Loans of such size reduce search costs per dollar which encourages mobility. All of the larger financial intermediaries participate in such a market as well as individual surplus units through the money and capital market.

The regional market for such output is generally identified with the medium-sized business loan. The reduced loan size increases the search cost per dollar and brings smaller demanders with less than national reputations into the market. The financial intermediaries of the larger market are joined by smaller institutions whose output is now acceptable. However, the amount of direct negotiations are reduced and therefore the intermediary is a more important factor in this market.

The small business loan is generally restricted to a local market. The small borrower is constrained by reputation, "shopping" costs, and/or inclination to the sources of funds available in the local area. The local financial intermediary, particularly the commercial bank, is the predominant supplier in this market as the possibility of dealing directly with surplus units is remote and commercial finance companies or trade credit are poor substitutes.

The "retail" loans, which are part of bank output, are generally extended to individuals who seek such a "product" for consumption purposes and would include such loans as consumer installment loans, residential mortgage loans, term loans to individuals and others of the same nature. With few exceptions, the geographic range of these loans tends to be local. Convenience and present bank relationships weigh heavily in consumer choice. A variety of local financial intermediaries participate in this market including: commercial banks, comsumer finance companies, savings and loan associations, savings banks life insurance companies and the selling retailer or dealer.[7] While this range of participants suggests a number of possible alternative sources of funds in the local market, evidence indicates that in many instances the alternatives are limited to the local bank and the credit supplied by the local retailers and/or dealers.

Uni-Product, Uni-Area Approach

In this approach it is generally recognized that banking is a multi-faceted operation dealing in a number of markets. However, the advocates of this approach view the total services of a commercial bank as a single, unique "product" package whose most important market is local.

The most explicit statement of this point of view has developed in the course of bank merger litigation in recent years. A determination of the competitive effect of a merger must be made under Section 7 of the Clayton Act.[8] Such a determination calls for a testing of the competitive impact of a merger "in any line of commerce in any section of the country." The "line of commerce" and the "section of the country" yield the relevant market.

The Supreme Court, in the Philadelphia National Bank case (1962), suggested the uni-product nature of banking when it stated:

> We have no difficulty in determining the "line of commerce" in which to appraise the probable competitive effects of appellees' proposed merger. We agree with the District Court that the cluster of products and services denoted by the term "commercial banking" composes a distinct line of commerce.[9]

In the same case, the Court found "no difficulty in determining the . . . relevant geographic market in which to appraise the probable competitive effects" of the merger.

> Individuals and corporations typically confer the bulk of their patronage on banks in their local community; they find it impractical to conduct their banking business

> at a distance. . . . The factor of inconvenience localizes banking competition as effectively as high transportation costs in other industries.[10]

Growing out of this and other court decisions has been the idea that bank markets and bank market structure can be examined in terms of a single composite product in the most important market.

It is evident that any study of bank structure must start with a set of assumptions concerning the nature of bank markets. This study assumes that bank markets are of a multi-product, multi-area nature.[11] However, the defense of such an assumption is outside the scope of this paper and, therefore, the analysis will examine structure/market relationships which might arise under either the multi-product or uni-product approach. In most cases the analysis will be coincident. However, divergence will be underscored when such arises.

The Regulatory Set

As previously mentioned, the focus of this paper is on the relevancy of that part of the regulative set which directly affects or controls bank structure. Such regulations specify the number of charters that can be controlled by a single organization or the number of separate offices that can be maintained by a single charter. Because these restrictions are not mutually exclusive there are several charter/office combinations possible (see Table 10).

TABLE 10

THE POSSIBLE COMBINATIONS OF
CHARTER AND OFFICE REGULATIONS

		Charters Per Organization	
		Single	Multiple
Offices Per Charter	Single	R_{SS}	R_{SM}
	Multiple (limited)	R_{LS}	R_{LM}
	Multiple	R_{MS}	R_{MM}

The number of bank charters that can be controlled by a single corporate entity is regulated, primarily, at the national level. With the vast expansion of holding company banking in the 1920's and the subsequent failure of several leading groups in the early 1930's, Congress enacted laws to establish some degree of control over the multi-charter organization. The Banking Act of 1933 and the Bank Holding Company Act of 1956 and its 1966 amendments were a result of such enactments. While the multi-charter organization is not prohibited, a rather stringent national regulatory environment has been established.

Many years before the appearance of the federal statutes, several states had enacted legislation to control multi-charter organizations.[12] However, in most states, including Florida, there are no legal provisions regarding the ownership of bank stock and so the relevant regulatory set is national.

The number of bank offices which can be controlled by a single charter is regulated, primarily, at the state level. The Glass Bill of 1933 formalized state predominance in this regulatory area by a provision which required national banks to conform to the regulations of the resident state in regards to the number of offices or locations controlled by a single charter. The national law remains essentially the same today with some minor additions provided by the Banking Act of 1935 and the 1962 amendment to the Glass Act.

The state laws which have been enacted in this area are varied. Essentially, the enactments have been of three types. Some states have restricted each charter to a single office (unit banking). Others have permitted an unlimited number of offices per charter (branch banking).[13] And there are still others who have placed certain geographic restrictions on the offices each charter can maintain(limited branching). It is, however, difficult to classify states categorically as to how they treat or regulate the question. Many of the statutes are vague and their terminology is ambiguous, so a division of states into multi-office, limited multi-office, and uni-office categories is somewhat arbitrary (see Table 11).

Casual observation would suggest that the regulatory bodies which see banking as a uni-product, uni-area business tend to advocate one office per charter. Whereas those who subscribe to the multi-product, multi-area approach would generally accept multiple-office charters. Differing concepts of bank markets have led to differing structural answers to the quest for the "optimal" structure. However, it appears that an appropriate definition of the "optimal bank structure" will suggest a structure whose optimality is not contingent

TABLE 11

CLASSIFICATION OF STATES BY THE REGULATIONS
LIMITING THE NUMBER OF OFFICES PER
BANK CHARTER, MARCH, 1970

Multiple Offices (19)	Multiple Offices with Geographic Limitations (16)	Single Offices (15)
Alaska	Alabama	Arkansas
Arizona	Georgia	Colorado
California	Indiana	Florida
Connecticut	Kentucky	Illinois
Delaware	Louisiana	Iowa
Hawaii	Massachusetts	Kansas
Idaho	Michigan	Minnesota
Maine	Mississippi	Missouri
Maryland	New Hampshire	Montana
Nevada	New Jersey	Nebraska
North Carolina	New Mexico	North Dakota
Oregon	New York	Oklahoma
Rhode Island	Ohio	Texas
South Carolina	Pennsylvania	West Virginia
South Dakota	Tennessee	Wyoming
Utah	Wisconsin	
Vermont		
Virginia		
Washington		

Source: "Recent Changes in the Structure of Commercial Banking," Federal Reserve Bulletin, March, 1970, p. 210.

upon a certain bank market concept. This possibility is developed further throughout the paper.

In Florida, the intra-state regulatory variable of interest is the number of offices per charter. The state has not interposed any significant regulations on the number of charters per organization and so the national regulatory set is dominant. However, Florida has been very definite in its approach to the office/charter question and since the early 1900's the regulatory answer has been one office per charter.

> Any bank or trust company shall have only one place of doing business, which shall be located in the community specified in its original articles of incorporation, and the business of the bank or trust company shall be transacted at its banking house so located in said community specified, and not elsewhere.[14]

In terms of Table 10, Florida's regulatory set could be characterized as R_{SM}, single office, multiple charter. Given the multiple charter provision, the intra-state alternatives for Florida are R_{LM} and R_{MM} which both allow for some form of branching or more than one office per charter.

This analysis will be cast in terms of examining the alternative regulative sets, R_{SM}, R_{LM}, and R_{MM}, and determining which might, through its effect on structure, bring Florida banking closest to its optimal position. Emphasis will be placed on the existing regulative set, R_{SM}, and the polar alternative, R_{MM}. The limited office alternative, R_{LM}, will be considered, but primarily as a variation on the multi-office set rather than as a third distinctly different alternative.

It should be noted than in considering these alternative regulative sets for Florida, the question might properly be cast as regulation or no regulation. The single office per charter appears as a result of regulative restriction. Without restriction or regulation the multi-office alternative tends to emerge. As the regulative set moves from the uni-office to the multi-office, the members of the regulative set are not only changed but also reduced. The multi-office alternative permits charters which have any number of associated offices whereas the uni-office permits only the one for one correspondence.

Bank Numbers

One of the major determinants of the nature of an economic market is the number of participants in the market. Market conditions are described or characterized, at least in part, in terms of the number of buyers and sellers.

> The first requirement for the existence of pure competition is that there must be a large number of buyers and sellers. . . [15]
>
> In price theory, conditions of monopoly in a given market refer to a situation in which the supply of an economic good. . . is controlled by a single seller. . . [16]
>
> When there are only a few sellers of an economic good under imperfect competition. . . the situation is given the special name of oligopoly.[17]

While the number of participants is not a sufficient condition for a given market situation, it is apparently a necessary one. It is therefore desirable for this analysis to investigate Florida bank numbers as they have developed under the current regulative set. This development can then be contrasted with the number situation which arises under the alternative regulative set.

The 510 commercial banking offices in operation in Florida on February 1, 1971, were distributed rather unevenly over the state's sixty-seven counties (see Table 12). Three of the most sparsely populated counties, Wakulla, Liberty, and Glades had no banking facilities and in each of thirteen other low-population counties there was only one banking office. Thus, 4.5 percent of the counties in the state, with less than 1 percent of the population, had no banking facilities whereas nationally less than 2.5 percent of all counties were in this category. In addition, 23 percent of the total counties, with 2 percent of the population, had less than two banking offices, while on the national level, less than 14 percent of all counties were so situated.

On the other hand, the state's banking offices and population are concentrated in the eleven largest counties - Dade, Broward, and Palm Beach on the lower East coast; Orange, Polk, Brevard, and Volusia in Central Florida; Pinellas and Hillsborough on the West coast; Duval in Northeast Florida; and Escambia in West Florida. Within these counties resides 73 percent of Florida's population with some 65 percent of the banking facilities.

The number of banking facilities can further be described in terms of the number of banks and banking offices in Florida as compared with other states and the changes in these figures over time.

TABLE 12

NUMBER OF COMMERCIAL BANKING OFFICES, POPULATION, AND POPULATION RANK OF FLORIDA COUNTIES, FEBRUARY, 1971

County	Number of Banking Offices 1950	February, 1971	Population Rank	Population
Wakulla	0	0	61	6,308
Glades	0	0	64	3,669
Liberty	0	0	66	3,379
Nassau	1	1	38	20,626
DeSoto	1	1	48	13,060
Washington	1	1	51	11,453
Holmes	1	1	53	10,720
Jefferson	1	1	56	8,778
Okeechobee	1	1	52	11,233
Baker	1	1	55	9,242
Hamilton	1	1	58	7,787
Calhoun	1	1	59	7,624
Union	1	1	57	8,112
Dixie	1	1	62	5,480
Gilchrist	1	1	65	3,551
Lafayette	1	1	67	2,892
Franklin	1	2	60	7,065
Flagler	1	2	63	4,454
Hernando	1	2	40	17,004
Charlotte	1	2	35	27,559
Walton	2	2	41	16,087
Madison	2	2	47	13,481
Sumter	2	2	44	14,839
Taylor	1	2	46	13,641
Hardee	1	2	43	14,889
Bradford	1	2	45	14,625
Hendry	1	2	50	11,859
Gulf	2	2	54	10,096
St. Lucie	2	3	24	50,836
Putman	2	3	28	36,290
Columbia	3	3	37	25,250
Osceola	2	3	36	25,267
Clay	1	3	31	32,059
Suwanee	3	3	42	15,539
Levy	3	3	49	12,756

TABLE 12 (Continued)

County	Number of Banking Offices 1950	Number of Banking Offices February, 1971	Population Rank	Population
Citrus	1	4	39	19,196
Indian River	1	4	29	35,992
St. Johns	4	4	32	30,727
Monroe	1	4	23	52,586
Gadsden	4	4	25	39,184
Jackson	5	4	30	34,434
Santa Rosa	1	4	27	37,741
Highlands	2	4	33	29,507
Martin	1	4	34	75,283
Collier	2	5	26	38,040
Bay	3	5	20	75,283
Seminole	3	5	18	83,692
Pasco	2	6	19	75,955
Marion	4	7	22	69,030
Leon	4	8	15	103,047
Okaloosa	3	8	17	88,187
Manatee	3	8	16	97,715
Lee	2	10	13	105,216
Alachua	6	10	14	104,764
Escambia	6	10	10	205,334
Lake	7	10	21	69,305
Sarasota	4	13	12	120,413
Volusia	6	18	11	169,487
Brevard	3	18	8	230,006
Polk	12	20	9	227,222
Hillsborough	11	25	5	490,265
Orange	7	26	7	344,311
Duval	10	30	3	528,865
Palm Beach	8	31	6	348,753
Broward	7	37	2	620,100
Pinellas	9	38	4	522,329
Dade	18	69	1	1,267,792

Source: Florida Bank Directory, 1971. (Norcross, Ga.: The Southern Banker, 1971).

It can be seen from the data that from 1950 to 1969 the number of banking offices in the nation has increased by some 80 percent, while, during the same period, Florida experienced a growth from 205 to 504 or 146 percent (see Table 13). This increase was the sixth largest, percentage-wise, in the nation and was the highest among the unit banking states.

The picture is significantly different when the figures for banks or bank charters rather than banking offices are examined. While the figures for unit banking states correspond.[18] other regulatory sets have been associated with a slower or even negative growth of bank entities over this period. In fact, the nation as a whole experienced a 3 percent decrease in banking charters, while Florida enjoyed a nation-leading increase of 139 percent.

The number of banking offices and/or banking charters are rather empty measures unless related to some other variable, such as population, which may define the markets served. A common measure used in this area is population per banking office. This highly simplified ratio reflects a number of factors - economic structure, population makeup and density, growth trends, etc. Variance from a given aggregate figure must be understood in the light of the multi-determinants.

Florida has been typified by a high ratio of population per banking office since the 1930's and, throughout most of the post-war period, has experienced the highest ratio in the United States. While banking offices have increased 160 percent since 1940, population has increased more than proportionately or by some 240 percent.

TABLE 13

NUMBER OF BANKS AND BANKING OFFICES IN THE UNITED STATES BY STATES, 1950 AND 1969

	Number of Banks			Number of Banking Offices		
State	1950	1969	Percentage Change	1950	1969	Percentage Change
Alabama	225	268	09	251	515	105
Arizona	11	13	09	67	311	364
Arkansas	232	248	07	251	404	61
California	212	162	(-)27	1,181	3,055	158
Colorado	154	257	73	158	279	77
Connecticut	112	66	(-)54	162	387	138
Delaware	38	19	(-)50	58	98	69
D. C.	19	14	(-)26	64	114	78
Florida	199	461	139	205	504	146
Georgia	397	428	09	439	703	60
Idaho	43	26	(-)30	98	175	78
Illinois	891	1,074	30	893	1,088	22
Indiana	486	415	(-)16	595	1,011	70
Iowa	663	673	01	827	966	17
Kansas	612	601	(-)02	612	664	08
Kentucky	385	346	(-)10	429	651	53
Louisiana	165	228	40	242	590	144
Maine	63	40	(-)30	134	253	89
Maryland	164	121	(-)26	283	613	117
Massachusetts	182	153	(-)12	359	874	143
Michigan	442	336	(-)25	681	1,485	118
Minnesota	680	720	06	686	734	07
Mississippi	201	185	(-)10	269	502	87
Missouri	600	667	11	601	753	25
Montana	110	135	23	110	141	27
Nebraska	418	441	06	420	481	15
Nevada	8	9	0	27	89	230
New Hampshire	58	77	22	77	128	66
New Jersey	324	229	(-)19	489	1,119	129
New Mexico	51	63	16	66	185	180
New York	629	319	(-)49	1,415	2,618	85
North Carolina	225	121	(-)52	443	1,125	154
North Dakota	150	169	13	172	237	38
Ohio	659	525	(-)20	885	1,738	96
Oklahoma	386	424	10	387	484	24
Oregon	70	50	(-)29	172	370	115
Pennsylvania	971	509	(-)49	1,164	2,108	81
Rhode Island	16	13	(-)19	76	174	126

TABLE 13 (Continued)

State	Number of Banks 1950	Number of Banks 1969	Number of Banks Percentage Change	Number of Banking Offices 1950	Number of Banking Offices 1969	Number of Banking Offices Percentage Change
South Carolina	148	118	(-)29	197	485	146
South Dakota	169	165	(-)04	218	257	17
Tennessee	297	305	03	395	754	91
Texas	908	1,166	28	920	1,233	34
Utah	55	51	(-)04	79	177	124
Vermont	70	44	(-)36	81	122	51
Virginia	313	233	(-)26	427	998	134
Washington	118	92	(-)22	262	615	135
West Virginia	180	195	08	180	200	11
Wisconsin	552	604	09	704	856	22
Wyoming	53	70	32	53	72	34
United States:	14,121	13,681	(-)03	18,966	34,099	80

Source: Annual Report, 1950, Federal Deposit Insurance Corporation; Changes Among Operating Banks and Branches, 1969, Federal Deposit Insurance Corporation.

By the end of 1970, after two decades of substantial expansion in banking facilities, Florida continued to show the highest ratio in the nation with over 13,000 persons per banking office, or better than twice the national average of 5,921 (see Table 14).

An examination of the population per banking office data for the country shows that multi-office states consistently have a population per bank office figure 12 to 15 percent less than the uni-office states. It seems probable that a regulative set permitting multi-office banking in Florida would lead to a decrease in the population per banking office.

TABLE 14

POPULATION PER BANKING OFFICE AND PERCENTAGE CHANGE, FLORIDA AND UNITED STATES, 1950-1970

	1950	1960	1970	Percentage Change 1950-1970
Florida	13,519	15,471	13,313	03
United States	7,946	7,216	5,921*	25

* The U.S. figure is for 1969 due to the unavailability of 1970 banking offices figures.

Source: Statistical Abstract of the United States, 1970; Florida Bank Directory, 1971.

The extremely aggregative nature of this ratio denies its use as a general framework for relating structure and number. However, Motter and Carson have suggested there are "structural dimensions of performance" such that "any additional banking office will bring added convenience to some group of bank customers."[19]

Within the framework of a structural objective of minimizing the costs of intermediation, the population/bank ratio has two possible implications. If cost minimization is more likely to appear under pure competition, then a low population per banking office is desirable for this is indicative of a relatively large number of participants.[20] Secondly, the costs of intermediation are affected by distance and the increased convenience of a relatively large number of banking offices per capita may decrease the distance of intermediation and thereby decrease cost. Thus, Florida's current uni-office regulation is less than optimal in regards to the number of banking offices.

Bank Numbers in National and Regional Markets

One characteristic of multi-office banking which is rather universally accepted as fact is that it tends to produce larger banks in terms of total resources than is possible under the uni-office arrangement. With very few exceptions the largest banks in the country have more than one office per charter.[21] One of the limiting features of participation in the national input or output market is firm size. Because multi-office banking tends to lead to larger banks, it tends to increase the number of participants in the wider geographical markets.

The problems of entry into the larger markets under the uni-office constraint is well typified in Florida. There were 76 banks in the United States with $1,000,000,000 or more in resources as of December 31, 1970. None of these banks are domiciled in Florida. In fact, Florida's largest bank, the First National Bank of Miami, is exceeded in size by 78 other banks located in 24 different states and Florida's next largest bank, the Atlantic National of Jacksonville, is one hundred and ninety-seventh in total resources. It would appear that Florida, the ninth largest state in the union, has no participants in the national market.[22]

In terms of the cost of intermediation, the possible effects of this situation are two. In the input market, the large depositor must seek an out-of-state intermediary or deficit unit. This, of course, leads to an outward flow of funds reducing the volume of funds available in Florida's output market[23] and possibly increasing the cost of intermediation. The lack of sufficient funds in the output market for large in-state demanders means that their costs are increased by the necessity of dealing with distant lenders.

The financial requirements of such projects as Disney World have been met to a large extent by large out-of-state banks. In fact, W.E. Allen, vice-president of Barnett Banks of Florida suggests:

> "Florida banks, in many cases, are not being asked to provide capital needs for large out-of-state firms doing business in Florida. They feel our banks just aren't big enough to handle the dollar volume they need. . ."[24]

The story at the regional level is much the same. Florida has the largest population of any state in the region and yet there are some eight banks in the Southeast larger than Florida's largest bank (see Table 15). Further, there are some 28 banks in the region larger than Florida's second largest bank. From a number point-of-view, it appears that Florida has minimal participation in the regional markets due to the limited bank size which appears to be consistent

TABLE 15

LARGEST BANKS IN THE SOUTHEAST
BY TOTAL DEPOSITS, DECEMBER 31, 1970

Bank	Total Resources
Wachovia Bank and Trust Co. Winston Salem, N.C.	$1,937,917
Citizens and Southern National Bank Savannah, Ga.	1,830,175
North Carolina National Bank Charlotte, N.C.	1,535,665
First Union National Bank of North Carolina Charlotte, N.C.	1,084,256
Virginia National Bank Norfolk, Va.	1,058,363
First National Bank of Atlanta Atlanta, Ga.	1,047,644
Trust Company of Georgia Atlanta, Ga.	1,063,924
First National Bank of Miami Miami, Fla.	975,288

Source: Rand McNally's Bank Directory, 1971 (Chicago: Rand McNally and Co.), 1971.

uni-office regulations. The possible effects on the cost of intermediation are as suggested for the national market, and, of course, the multi-office alternative should lead to a rapid increase in the number of Florida participants.

Bank Numbers in a Local, Non-Metropolitan Area

In considering the number question at the local level, it is convenient to look at metropolitan and non-metropolitan areas separately. Extensive studies of regulations and bank numbers in the non-metropolitan areas have led most authorities to agree with Shull and Horvitz who investigated the average number of banking institutions per non-metropolitan community in states with differing regulative sets. Their conclusion was:

> . . . that states with unlimited branching show a clear number superiority in most of these comparisons. This is true even in the very small community.[25]

Such results should not be too surprising. The requirements for an economic base sufficient to support a bank charter are much more extensive than those necessary to support a banking office. The single office constraint requires a location where the supply and cost of inputs and the demand and price for outputs are balanced in such a way that the resulting earnings are sufficient to satisfy all of the factors of production. However, the multi-office organization finds it possible and even desirable to place a facility wherever there is need for some part of the intermediation process. There is no requirement for any type of input-output balance at any one location. Thus, in non-metropolitan areas, where there is often a chronic in-balance in the flow of funds, the number of banking offices under multi-office banking is invariably greater than appears under uni-office banking.

Florida's non-metropolitan areas appear to suffer the common fate of uni-office states. As noted before there are three rural counties in the state which have no banking offices at all. There are some thirteen other counties which have only one banking office. Both of these figures are above the national average and when compared with the numbers developed in the previously mentioned studies would indicate the number of banking offices in Florida's non-metropolitan areas would be increased under the multi-office alternative.

The absence or fewness of banks in such a market would have the same type of effect on the cost of intermediation as was true in the national and/or regional market and so the minimization objective will be more closely served by increased numbers.

Sometimes the spector of funds being "gobbled up" by the rural branches of large metropolitan banks for intra-city, regional or national use is served up as a reason for avoiding the multi-office regulatory environment. The implication of this argument is, of course, that the branch location will result in a net outflow and local demands for funds will go unmet.

While this argument will be considered empirically later, the reasoning can be faulted from the point-of-view of the minimization objective on two counts. First, the macro-aspects of minimizing the costs of intermediation imply the best possible flow of funds through the intermediation process in response to the market forces present. If market forces are such that the demand for funds exceeds the supply of funds in some locale, then the costs of intermediation are best served by that structure which facilitates the fund flow in this situation rather than impeding it by a non-market factor such as the absence of a banking facility in some excess supply area because of the unitary constraint.

The second point, and one that is more micro in scope, is that the lack of a local office does not prevent an outflow in case of a local excess of supply over demand. In fact these funds will find a depository, outside the local area, and then the possibility of an inflow to meet the local demands that may arise is less likely than if there was a local facility through which local inflows and outflows could be channeled.

Bank Numbers in a Local, Metropolitan Area

The evidence as to the effect of the regulative set on bank numbers in metropolitan areas is not as clear. The difficulty lies in the question of the definition of the local market in such an area. Some would take the entire area as a "local market" while others see the area as constituting a number of local markets. If the important aspect of banking numbers is banking offices, as has been suggested, then the latter approach may be the more valid one.

Using such an approach, Schweiger and McGee, among others, found:

> In a small area (local market) such as a neighborhood or suburban city, a branch bank system provides a larger number of firms. There are relatively more one-bank towns and towns with no banks in metropolitan areas with unit banking.[26]

This point is well demonstrated in Table 16. From the data, it can be seen that while the number of banking organizations in the metropolitan area is greater under uni-office banking, the number of banking offices is far greater under the multi-office situation. If a metropolitan area is divisible into a number of local markets, then the probability of bank representation in such markets is higher where multi-office banking is allowed. The reasons for such a situation and the effects on the costs of intermediation are the same as those suggested in the non-metropolitan area.

Florida's situation in its metropolitan areas is exacerbated by the rapidly growing population. Although the greatest growth in banking offices in the state during the post-war era has occurred in the larger counties, population increases have maintained the ratios at a particularly high level (see Tables 17 and 18). In fact, it is evident from Table 17 that the overall figures which show Florida having the fewest banking offices in relation to population in the nation can be largely accounted for in these metropolitan areas where burgeoning population continues to stay ahead of the chartering authority.

In summary, it appears that the number of banking offices within a state or the number located in any one of the geographical markets is a function of regulation. The fewest number of banking offices appears under the uni-office constraint and the greatest number of banking offices at all levels is consistent with the multi-office alternative.

TABLE 16

AVERAGE NUMBER OF BANKING ORGANIZATIONS AND BANKING OFFICES IN METROPOLITAN AREAS, 1970

Population of Standard Metropolitan Statistical Area	Statewide Branching States	Limited Branching States	Unit-Banking States
		Banking Organizations	
50,000-100,000	6	5	7
100,000-500,000	8	11	18
500,000-1,000,000	15	18	38
1,000,000 and over	35	46	120
All SMSA's	13	16	29
		Banking Offices	
50,000-100,000	19	10	9
100,000-500,000	40	35	23
500,000-1,000,000	112	89	48
1,000,000 and over	353	368	142
All SMSA's	93	86	36

Source: Federal Reserve Bulletin, March, 1970, p. [illegible]06.

TABLE 17

AVERAGE POPULATION PER BANKING OFFICE AND PER COUNTY IN FLORIDA BY NUMBER OF BANKING OFFICES IN COUNTY, 1970

Number of Banking Offices in County	Number of Counties	Average Population Per Banking Office	Average Population Per County
None	3		4,452
1	13	9,273	9,273
2	12	6,899	13,799
3	7	9,426	28,280
4	9	8,539	34,155
5	3	13,134	65,671
6-10	9	11,760	900,618
11-20	4	10,828	186,782
21-38	6	15,265	475,770
Over 39	1	18,373	1,267,792

Source: Derived from Table 12.

TABLE 18

POPULATION PER BANKING OFFICE, FIVE HIGHEST COUNTY RATIOS IN FLORIDA, 1950 AND 1970

County	Population Per Banking Office 1950	1970
Escambia	18,784	20,533
Hillsborough	22,717	19,611
Dade	27,500	18,373
Duval	30,402	17,629
Broward	13,126	16,759

Source: Table 12 and Census of Population, Bureau of the Census, 1950. This excludes Nassau County which has one bank and a population estimated at 20,626.

The costs of intermediation tend to be decreased as the number of banking offices increase. The decrease stems from the increased participants in the market. This causes the resulting market structure to more closely resemble pure competition where the cost of intermediation, at least in part, may be minimized. In addition, increased numbers means decreased distance between the intermediary and its markets. The "structural dimensions" of banking are strengthened by the increased convenience and the costs of intermediation are decreased by the decreased distance.

Florida's bank number situation is a result of its uni-office constraint. In every measure of bank numbers, Florida is less optimal than multi-office states and in many measures Florida's banking situation is among the worst in the United States. There seems to be little doubt that if Florida moved to some form of multi-office regulation the number of banking offices would increase and to the extent such a change would affect the cost of intermediation, these would decrease.

Concentration Ratios

Price theory identifies market structure not only by the number of participants in the market, but also by their relative sizes. While the former can be measured directly, the measurement of relative size is more difficult. Normally, such a measure is couched in terms of concentration ratios. These ratios are generally computed to show the degree of ownership or control of a large proportion of some aggregate of economic resources or activity by a small absolute number of economic units.

Theory holds that "the atomistic industry, in which seller concentration is very low, meets one of the necessary conditions of pure competition."[27] On the other hand, it is suggested that the oligopolistic industry in which seller concentration is high, is more closely akin to imperfect competition and the more concentrated the industry the further the resulting market structure diverges from pure competition.

While the minimization of the costs of intermediation does not require any specifc market structure, it is generally predicted that the probability of such minimization varies directly with the degree of competition. There is little doubt that allocative neutrality is maximized under pure competition. However, the questions of productive efficiency and/or technical innovation are not as clearly related to a specific market structure and are therefore discussed more directly in a later chapter. The current concern with a concentration ratio is based on the idea that such a ratio gives information about the existing market structure which may have an effect on the cost of intermediation to the extent that allocative neutrality affects such costs.

Concentration or relative size is an important determinant of competition within the specified market area. However, the question as to what constitutes a banking market is, as suggested earlier, an unsettled one. Those who see banking as a multi-product, multi-area business make little use of the concentration ratio because of the multitude of products, geographical areas and institutions involved. However, the uni-product, uni-area advocates place great emphasis on such ratios as an indicator of the degree of competition. In fact, the Anti-trust Division of the Justice Department built its case in the Philadelphia-Girard Case largely on changes in the concentration ratios.[28]

While these ratios have some definitional and analytical difficulties,[29] some notice must be given to these computations. Their apparent computational simplicity has led to their extensive use by students of banking in making judgments as to the relationship between bank regulation and market structure.

Concentration ratios are often noted at the state level as an approximate indicator of market power in the regional market. It is evident in Table 19 that concentration as measured by the percent of total deposits held by the five largest banks in the state is highest in the multi-office regulatory environment and the lowest in the uni-office situation. If the multi-charter organization is allowed into the picture, the degree of concentration in the multi-office state increases very little (+.004), whereas the ratio for unit banking states increases above that of the limited branching states to a 40.1 percent figure. The final figure for Florida's five largest banking groups and/or banks is 34.9 percent of total deposits held by such organizations.

To the extent that concentration ratios affect the cost of intermediation it would appear that at the regional level, the uni-office constraint has contributed to the minimization of such costs in Florida. The relatively low concentration increases the probability of allocative neutrality and thus may contribute to the objective function.

TABLE 19

CONCENTRATION RATIOS IN STATES, DECEMBER 31, 1964 AND 1969, BY TYPE OF OFFICE REGULATION

Type of Office Regulation	Percent of Total Deposits Held by the Largest Five Banks	
Statewide Branch Banking	76.7	74.2
Limited Branching	40.0	38.9
Unit Banks	28.6	33.6

Source: Annual Report of the Federal Deposit Insurance Corporation, 1964; Federal Reserve Bulletin, March 1970.

However, this conclusion must be tempered by certain reservations about the state-wide concentration ratio as an indicator of regional market power. Aggregate deposit figures as used here may give little specific information about a market. In order to ascertain a bank's market power in the regional market, the concentration ratio would reflect only those deposits which are regional in nature. Using the aggregate measure, New York, for example, with limited branching, has 58 percent of all deposits in the largest five banks. However, it is likely that a large part of these deposits can be assigned to the national market.

On the other hand, low concentration in unit banking states may not indicate an absence of market power, rather it may be indicative of the fact that no banks, or a very few, have been able to attain the size necessary to participate in the regional market. As noted before, there are a number of banks in the Southeast larger than Florida's largest bank. The low state-wide ratio in Florida appears to indicate a lack of participation at the regional level rather than a lack of concentration of market power at this level.

Local Markets

At the local market level the concentration ratios show mixed results under the different regulatory sets. Data on the proportion of deposits held by the largest, three largest, and five largest banks in some 60 metropolitan areas are presented in Table 20. Perhaps the most significant point to be noticed about these figures is that they are consistently high. The largest bank holds,

TABLE 20

CONCENTRATION OF TOTAL DEPOSITS IN STANDARD METROPOLITAN AREAS, DECEMBER 31, 1969, BY REGULATORY SET

	Largest Bank or Bank Group	Largest 3 Banks or Bank Groups	Largest 5 Banks or Bank Groups
Statewide Branch Banking	40.7	81.0	92.1
Limited-Area Branch Banking	36.7	76.8	89.6
Unit Banking	31.5	66.8	75.7
Florida			
Ft. Lauderdale-Hollywood	.21	.42	.56
Jacksonville	.35	.85	.92
Miami	.32	.74	.88
Orlando	.45	.76	.92
Pensacola	.28	.78	.95
Tallahassee	.33	.94	1.0
Tampa-St. Petersburg	.27	.62	.78

Source: *Summary of Accounts and Deposits in All Commercial Banks, National Summary and Atlanta District*, Federal Deposit Insurance Corporation June, 1969; *Florida Bank Directory, 1970*.

on the average, some 35 percent of deposits and the five largest hold over 80 percent. It is evident that concentration ratios are consistently lower under unit banking, but it is questionable as to whether there is a difference in allocative neutrality in an oligopolistic market showing 75 percent concentration in five firms or 90 percent.

Bain's study of concentration suggests there are six classes ranging from very high (Class I) to atomistic (Class VI). Class II is characterized as being "highly concentrated".

> In general this class is typified by 85 to 90 percent control of the market by the first eight sellers and from 65 to 75 percent control by the first four, and by a competitive fringe of small sellers usually ranging from 20 to 30 to above 100 in number. . . . In general, oligopolistic interdependence among the largest six or eight firms must still be very strong. . . (but) the members of the competitive fringe are not fully restrained by this oligopolistic interdependence.[30]

As noted, the lowest concentration for the five largest banks is found in unit banking states - 75 percent. A further investigation indicates the average number of banks in the local (SMSA) markets of such states is more than thirty, but less than a hundred. Based on this limited information, it would appear that the least concentrated local banking markets would fall into Class II and all others would be Class II or Class I.

In attempting to relate concentration and performance, Bain could find few if any significant differences between Class I and Class II cases. This would suggest that at the local market level as measured by the SMSA, the alternative regulatory sets have little effect on bank performance through their impact on concentration ratios.

It should be recognized that Bain's classification scheme is far from definitive and his concentration/performance relationships are largely descriptive and difficult to translate into measureable variables. However, this is the nature of the problem and others who have attempted quantification in this area have fallen back on Bain or made somewhat similar arbitrary distinctions.

In the Philadelphia Case, the Supreme Court upheld the contention of the Justice Department that control of greater than 30 percent of the "banking business" in the relevant market would be undue concentration and would have a negative effect on performance.[31] An analysis has been made of recent (1966-1969) decisions of the Board of Governors of the Federal Reserve System in merger and holding company decisions.[32] The study indicated that the resulting deposit concentration in merger or holding company applications did not become a negative variable until it reached the level of 31 to 35 percent.

The ratios for the Florida SMSAs reveal, with one exception, higher concentration than is generally true in unit banking states. In fact, several of the Florida areas have concentration which exceed that of the average banking states. A reason for the relatively high Florida ratios is that they reflect holding company and interlocking directorate relationships which are not included in the overall average figures.

It would appear that complete identification of ownership links would bring most concentration ratios, regardless of regulatory set, well within the limits suggested by Bain for Class II concentration or above the minimal figure (30 to 35 percent) suggested by the Courts or the Federal Reserve. In fact, the outstanding characteristic of these ratios is not the structural differentials, but their consistently high level under all forms of bank organization.

In attempting to relate concentration and the cost of intermediation under the different regulatory sets at the local level, we are led to a rather non-definitive conclusion. To the extent that concentration ratios are predictors of the cost of intermediation in terms of allocative neutrality, the regulatory set appears to be a non-determining variable or the concentration ratios as measured are not a valid indication of market power.

Another possible measure of local banking markets is the county perimeter. Several of the limited branching states have adopted geographical restrictions which imply the homogeneity of the county and the local market.[33] In fact, the Philadelphia-Girard decision appeared to impute local market significance to county boundaries.[34]

An examination of the county concentration ratios for Florida (Table 21) reveals a rather high degree of deposit concentration when the holding company and affiliated group relationships are recognized. In fact, 65 percent of the counties show more than 76 percent of the deposits in the county concentrated in two or less banks and some 90 percent of all counties have more than 76 percent of their deposits in five or less banks.

TABLE 21

A SUMMARY OF DEMAND DEPOSIT CONCENTRATION IN FLORIDA, BY COUNTY,[*] DECEMBER, 1969[**]

Concentration Ratio	1 Bank	2 Banks	3 Banks	4 Banks	5 Banks
Less than .50	.40	.14	.06	.01	
.50 -.75	.35	.21	.10	.10	.10
.76 -.85	.01	.14	.10	.05	.05
.86 -1.0	.24	.51	.73	.83	.85

Source: Compiled from Table 24.

[*] These figues do not include three counties, Glades. Liberty, and Wakula, which have no banks.

[**] The percent of counties with the indicated concentration ratios and bank numbers.

These figures appear to confirm the pattern of relatively high concentration found in the Florida SMSA's. Thus, it would appear that the cost of intermediation in Florida as affected by concentration ratios in the local market would not be increased substantially by a change in the regulatory set.

As a matter of fact, there is a relatively high probability that multi-office banking would result in an increase of banking offices in the local non-metropolitan area and the degree of concentration in this sub-market would decline.[35] Certainly *de novo* entry into Florida's "low-bank" counties would decrease concentration while increasing the level and spirit of competition. While a merger or conversion entry does not achieve the same result, it should be noted (Table 22) that in terms of numbers, the primary impact of multi-unit banking on the banking industry has been through *de novo* branches.

Entry

The condition of entry into the industry is also closely related to the resulting market structure. It is theorized that the degree of freedom present in entry reflects the force of potential competition as a regulator of the market conduct of the existing firms. The fewer the entry restrictions, the closer the resulting market will be to pure competition, *ceteris paribus*.

Entry conditions tend to affect the cost of intermediation in two ways. First, if freedom of entry is associated with price competition, then increasing ease of entry contributes to a more competitive market structure. The allocative neutrality subfunction of the cost of intermediation is maximized in the purely competitive

TABLE 22

DE NOVO BRANCHES AND BRANCHES ESTABLISHED THROUGH MERGERS, 1946-1971

Year	De Novo Branches	Conversion	Total	Ratio of De Novo Branches to Total
1946	141	54	195	.72
1947	147	55	201	.73
1948	152	56	208	.73
1949	158	58	216	.73
1950	179	71	250	.72
1951	234	58	292	.80
1952	215	82	297	.73
1953	280	92	372	.75
1954	341	174	515	.66
1955	442	203	645	.68
1956	522	166	688	.75
1957	501	134	635	.78
1958	540	126	666	.81
1959	584	148	732	.79
1960	771	107	878	.87
1961	788	126	914	.86
1962	874	164	1,038	.84
1963	1,065	139	1,204	.88
1964	1,025	121	1,146	.88
1965	1,074	129	1,203	.89
1966	1,096	113	1,209	.90
1967	1,090	117	1,207	.90
1968	1,105	122	1,227	.90
1969	1,244	132	1,376	.90
1970	1,493	129	1,622	.92

Source: February issues of the Federal Reserve Bulletin, 1947-1971.

market and thus entry conditions may affect the cost of intermediation through their impact on structure and allocative neutrality. In addition, the number of bank offices is related to entry conditions and as noted earlier, the "convenience" variable associated with bank numbers has an effect on the cost of intermediation.

An examination of bank numbers in Florida suggests that entry has been relatively difficult to achieve under its uni-office regulation. Earlier computations indicated that bank numbers are particularly low in Florida and the 73.5 banks per million in population is the lowest in the United States. In fact it has been estimated "that 155 additional banks would be required to give Florida the same ratio of banks to population as the next least banked state. . . ."[36] Further, it is suggested that "there is no apparent reason why Florida should require so many fewer banks in relation to its population than any other state."[37]

It can be seen from the previous data on the number of banking offices in the individual states and their increase over the last eighteen years (Table 13) that although Florida has experienced a substantial increase in banking offices over this period, it was exceeded in percentage increase by several other states. While Florida has been a leader in most other demographic and economic changes, it has lagged in banking offices. Undoubtedly, there are several reasons for such a lag, but it appears reasonable to assume one of the major contributors has been the relative difficulty of entry under the uni-office restriction.

The information presented in Table 23 tends to support the a priori argument suggested. The several states presented in the table have the common characteristic of rapid growth over the last two decades. However, Florida is the only state in the group which has the uni-office regulatory set. Coincidental with this difference is the startling dissimilarity in the population per banking office figures. The Florida figures are more than double those of any of the other states. A look at a few of the more important demographic and economic characteristics of these states indicates that the two items in which Florida consistently differs from all of the other states is the regulatory set and the population per banking office. The obvious inference is that it is more difficult to establish a banking location in Florida because of the uni-office constraint.

Other studies have also indicated that entry is easier to achieve under the multi-office regulatory set.[38] The economic barriers to entry are not excessively high in the banking industry and these are even lower when the banking need can be met by a branch rather than a new banking entity. However, the primary barrier for a prospective entrant is regulatory as entry cannot be achieved without the approval of the appropriate regulatory authorities.

By law, the bank chartering authorities must consider the effects of new bank entry on bank safety. Specifically, they want to avoid bank failures and the primacy of this interest requires the regulatory authorities to maintain a conservative chartering stance. A new entrant always poses the possibility that the market will not be able to sustain all participants. If the existing

TABLE 23

CERTAIN DATA FOR SPECIFIED RAPID GROWTH STATES, 1950-1969

State*	Annual percentage increase in population		Population per square mile, 1960	Per capita income, 1969	Percentage increase in bank offices, 1950-1969	Population per banking office, 1969	Regulatory Set
	1950-60	1960-69					
Florida	5.8	2.7	91.5	$3,427	146	13,128	unit
Nevada	5.8	5.0	2.6	4,359	230	5,135	branch
Arizona	515	2.8	11.5	3,336	364	5,444	branch
California	4.0	2.3	100.4	4,272	158	6 364	branch
Maryland	3.4	2.1	313.5	4,095	147	6,142	branch

Source: Statistical Abstract of the United States, 1970; Tables 10 and 11.

*These states are all those which had an annual rate of growth greater than 2.0 percent during the period 1960-1969 except Alaska and Hawaii.

banking offices are branches and the applicant is likewise, the authorities can afford to take a more liberal attitude. If a branch proves to be unprofitable, it can be closed and accounts transferred to another office with no public loss and little inconvenience. On the other hand, the disappearance of a unit bank involves an evaporation of the money supply and requires federal assistance to avoid a major local catastrophe.

In addition, there are other features of multi-office banking which make it easier to achieve market penetration. The branching application presents the chartering authority with a set of known quantities as far as management, financial history, and other chartering standards are concerned. The conservative hedge of the regulatory authorities in considering the unknown features of a unit bank application may be tempered when considering the branching application

The relationship suggested earlier between allocative neutrality, convenience, and ease of entry leads to the conclusion that the cost of intermediation, as affected by these factors, will be minimized when the multi-office regulative set is present. The large number of counties in Florida which have one or less banking offices would be reduced or eliminated and the extremely high number of people per banking office would be reduced.

Summary

In pursuit of an audit of the Florida banking regulatory set, we have begun the task of identifying the characteristics of current Florida banking and how these relate to the optimal set. This chapter has focused on market structure as a separate and identifiable subset of the universe of characteristics.

In order to consider market structure, the question of bank markets had to be examined. While there are several alternatives, the inquiry was cast in terms of the polar positions, the multi-product, multi-area approach versus the uni-product, uni-area approach. This study assumes that the nature of bank markets is more closely akin to the former. However, the analysis does examine relationships which might arise under either approach in order to establish that the conclusions regarding structural optimality will be the same.

The structural alternatives were examined and the possible combination of charter and office number restrictions were considered. Florida's existing regulatory set which results in multi-charter, uni-office combinations was examined in some detail.

Having developed the definitional status of bank markets and delineated the existing regulatory set, we proceeded to examine specific characteristics associated with market structure. In every measure of bank numbers, Florida is less optimal than multi-office states and in many measures, Florida's banking office situation is the worst in the United States. There seems little doubt that if Florida moved to some form of multi-office regulation, the number of banking offices would increase.

The relative size of the market participants was examined in terms of concentration ratios. While such ratios have serious limitations their common use required some analytical comment. At the state level the degree of concentration tends to be lower under the uni-office regulatory set. However, in many unit banking states such as Florida, such low ratios may indicate a lack of participation in the regional market rather than a more equal distribution of market power.

At the local level, where the uni-office, uni-product proponents concentrate their analysis, it would appear that the proper identification of ownership links would bring most concentration ratios, regardless of regulatory set, to an oligopolistic level as defined by Bain. The relatively high level of concentration found in multi-office states at the local level are likewise present in such unit banking states as Florida.[39] As a matter of fact, there is a high probability that multi-office banking would result in a decrease in concentration in non-metropolitan areas in Florida where it is not unusual to have all of the deposits concentrated in one or two banks. However, in general, it appears that to the extent that concentration ratios are predictive in terms of allocative neutrality, the regulatory set has a limited effect at the local level.

Finally, ease of entry was examined indirectly under the alternative regulative sets. The conclusion was that bank entry was easier under the multi-office set. Florida's "under-banked" condition with some 25 percent of its counties having fewer than two banks can be attributed, at least in part, to the entry difficulties under the uni-office regulatory scheme.

TABLE 24

CONCENTRATION OF DEMAND DEPOSITS IN FLORIDA,
BY COUNTY, DECEMBER, 1969*

County	Percentage of Total Demand Deposits Held by the Indicated Number of Banks or Bank Groups 1 Bank	2 Banks	3 Banks	4 Banks	5 Banks
Alachua	.43	.61	.78	.85	.92
Baker	1.0	-	-	-	-
Bay	.50	.90	1.0	-	-
Bradford	.65	1.0	-	-	-
Brevard	.24	.39	.51	.62	.70
Broward	.21	.33	.42	.50	.56
Calhoun	1.0	-	-	-	-
Charlotte	.54	1.0	-	-	-
Citrus	1.0	-	-	-	-
Clay	.42	.78	1.0	-	-
Collier	.48	.94	1.0	-	-
Columbia	.53	.78	1.0	-	-
Dade	.27	.36	.44	.51	.57
DeSoto	1.0	-	-	-	-
Dixie	1.0	-	-	-	-
Duval	.35	.64	.85	.89	.92
Escambia	.28	.53	.78	.85	.95
Flagler	1.0	-	-	-	-
Franklin	1.0	-	-	-	-
Gadsden	.50	.80	.92	1.0	-
Gilchrist	1.0	-	-	-	-
Glades	NB				
Gulf	.70	1.0	-	-	-
Hamilton	1.0	-	-	-	-
Hardee	.72	1.0	-	-	-
Hendry	.72	1.0	-	-	-
Hernando	.70	1.0	-	-	-
Highlands	.54	.72	.89	1.0	-
Hillborough	.36	.65	.80	.83	.85
Holmes	1.0	-	-	-	-
Indian River	.69	.90	1.0	-	-
Jackson	.43	.75	.94	1.0	-
Jefferson	1.0	-	-	-	-
Lafayette	1.0	-	-	-	-
Lake	.19	.36	.52	.64	.76
Lee	.35	.70	.82	.89	.93
Leon	.33	.64	.94	.96	1.0
Levy	.56	1.0	-	-	-

*Concentration ratios computed to take into consideration holding companies and interlocking directorates. See Table 25.

TABLE 24 (Continued)

County	1 Bank	2 Banks	3 Banks	4 Banks	5 Banks
Liberty	NB				
Madison	.66	1.0	-	-	-
Manatee	.38	.73	.86	.98	1.0
Marion	.33	.61	[illegible]	.93	.97
Martin	.61	.83	.94	1.0	-
Monroe	.47	.79	1.0	-	-
Nassau	1.0	-	-	-	-
Okaloosa	.26	.43	.58	.72	.85
Okeechobee	1.0	-	-	-	-
Orange	.45	.62	.76	.87	.92
Osceola	.52	.85	1.0	-	-
Palm Beach	.13	.25	.36	.45	.53
Pasco	.57	.85	1.0	-	-
Pinellas	.17	.31	.42	.53	.61
Polk	.24	.37	.50	.58	.65
Putnam	.69	.87	1.0	-	-
St. Johns	.54	1.0	-	-	-
St. Lucie	.62	.85	1.0	-	-
Santa Rosa	.49	.83	1.0	-	-
Sarasota	.28	.57	.73	.81	.87
Seminole	.40	.70	.94	1.0	-
Sumter	.54	1.0	-	-	-
Suwanee	.81	1.0	-	-	-
Taylor	.52	1.0	-	-	-
Union	1.0	-	-	-	-
Volusia	.20	.38	.56	.69	.82
Wakula	NB				
Walton	.70	1.0	-	-	-
Washington	1.0	-	-	-	-

Source: Computed from data supplied to the Bureau of Economic and Business Research, University of Florida by the Florida Bankers Association.

Speculation as to the effect multi-unit banking may have on the regulatory authority's attitude toward new entry suggests another point, not specifically restricted to the entry question, but significant from the cost of intermediation viewpoint. The Comptroller of the Currency expressed the idea well when he pointed out that under multi-office banking, entry limitations would continue in force and the regulatory authorities would still stand between the demand for entry and an increase in the cost of intermediation due to "overbanking" or concentration.

> Therefore greater power to allow the formation of branches would merely add to the discretionary authority of the regulatory agencies. Equipped with a more extensive range of alternatives, the banking authorities would be in a better position to choose the precise means of bank expansion most suitable to serve the needs of individual banking markets, and most likely to provide the required services and facilities at the lowest costs.[40]

The need for an increase in banking services in a given market must be met by a new charter under the uni-office regulatory set. However, the regulatory authority has multiple alternatives under the multi-office set and therefore there is a greater probability that the regulatory response to a given banking need will be prompter and more appropriate.

In terms of the objective function of minimizing the cost of intermediation, it appears that, in the context of market structure, the characteristics which emerge under the multi-office regulatory set are more consistent with the objective than those which evolve under the uni-office constraint.

The productive efficiency desiderata that is a part of the total objective function is certainly affected by the locational or convenience cost associated with bank numbers. If multi-office banking in Florida would result in a greater number of banking offices, then the efficiency of the intermediation process could be improved as the number of locations without a bank would necessarily be reduced. The inconvenience and inefficiency of distant intermediation would be reduced and the resulting costs would be likewise affected.

The desired allocative neutrality that is part of the overall objective is a function of the level of competition within the markets in question. The evidence indicates that in terms of bank number, market power, and entry the characteristics which would evolve in Florida under the multi-office set are more likely to minimize the cost of intermediation through allocative neutrality than those which have evolved under the existing uni-office constraint.

The safety of deposits objective is also best served in the context of market structure under the multi-office set. The primary reason that the regulatory agent could take a more liberal entry attitude in Florida under the multi-office set is that banking needs and facilities could be more closely matched and the risk of a mis-match would be reduced. Further, the fund mobility and risk-pooling that is characteristic of multi-office banking reduce depositor risk and thus would contribute to a minimization of the cost of intermediation in Florida.

TABLE 25

BANKING RELATIONSHIPS IN FLORIDA, DECEMBER 31, 1970

Most banks in Florida are related in some way to other banks. This relationship takes a variety of forms. It may be as a member of a holding company, a member of a chain, an affiliate of a larger bank, or one of several banks with an interlocking directorate. In fact, some 72 percent of the banks in Florida, holding 89.6 percent of total deposits had some multi-bank relationship. The data which follow indicate the groupings which these pseudo-unit banks have developed.

REGISTERED BANK HOLDING COMPANIES

BANK*	TOTAL DEPOSITS
Atlantic Bancorporation	$643,440,000(4.6%)**
First Atlantic National Bank, Daytona Beach	
Westside Atlantic Bank, Daytona Beach	
First National Bank, Gainesville	
Hastings Exchange Bank, Hastings	
Atlantic National Bank, Jacksonville	
Lake Forest Atlantic Bank, Jacksonville	
Normandy Atlantic Bank, Jacksonville	
Southside Atlantic Bank, Jacksonville	
Springfield Atlantic Bank, Jacksonville	
Westside Atlantic Bank, Jacksonville	
Lake Wales Bank and Trust, Lake Wales	
Atlantic Bank of Orlando, Orlando	
Palatka Atlantic National Bank, Palatka	
Exchange Bank, St. Augustine	
Sanford Atlantic Bank, Sanford	
Atlantic National Bank, West Palm Beach	
Atlantic National Bank, Winter Park	
Barnett Banks of Florida, Inc.	677,854,000(5.2%)
City National Bank & Trust Co., Clearwater	
Barnett First National Bank, Cocoa	
Barnett First National Bank, Deland	
Barnett First National Bank, Jacksonville	
Murray Hill Barnett Bank, Jacksonville	
Regency Square Barnett Bank, Jacksonville	
San Jose Barnett Bank, Jacksonville	
Brickell Bank, Miami	

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* Includes acquisitions pending and charters applied for.

**Percent of total deposits in Florida.

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Barnett Banks of Florida, Inc. (cont.)	$645,440,000(4.6%)
Munroe and Chambliss National Bank, Ocala	
Munroe and Chambliss National Bank of East Ocala, Ocala	
First Bank and Trust Company, Pensacola	
Barnett Bank of Anastasia Island, St. Augustine	
St. Augustine National Bank, St. Augustine	
Barnett National Bank, St. Petersburg	
Tropical Bank and Trust Co., Sebring	
Tallahassee Bank and Trust Co., Tallahassee	
Tallahassee Bank North, Tallahassee	
American National Bank and Trust Co., Winter Haven	
Cypress Gardens American National Bank, Winter Haven	
First National Bank, Winter Park	
Fidelity National Bank, South Miami	
International Bank, Tampa	
Barnett First National Bank, Altamonte Springs	
American Bank, Auburndale	
Barnett Bank, Daytona Beach	
Barnett Bank, Orlando	
Barnett Mall Bank, Winter Park	
Broward Bancshares, Inc.	245,986,000(1.7%)
Broward National Bank, Ft. Lauderdale	
Coral Ridge National Bank, Ft. Lauderdale	
Ft. Lauderdale National Bank, Ft. Lauderdale	
Lauderdale Lakes National Bank, Lauderdale Lakes	
Central Bancorp	111,832,000(0.8%)
Central Bank and Trust Co., Miami	
Central Bank of North Dade, Miami	
Central National Bank, Miami	
Charter Bankshares Corp.	244,366,000(1.7%)
Commercial Bank, Gainesville	
Bank of Gulf Breeze, Gulf Breeze	
Citizens Bank, Lehigh Acres	
Harbor City National Bank of Eau Gallie, Melbourne	
First National Bank, Milton	
Exchange Bank,Palatka	
Commercial National Bank, Pensacola	
First National Bank, St. Petersburg	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Citizens Bancshares of Florida, Inc.	$88,779,000(0.6%)
Citizens National Bank, Davie	
Citizens National Bank, Hollywood	
Citizens National Bank of West Hollywood, Hollywood	
Citizens National Bank, Miami	
City National Bank Corp.	277 007,000(1.9%)
City National Bank, Coral Gables	
City National Bank, Miami	
City National Bank, Miami Beach	
Commercial Bancorp, Inc.	171.100,000(1.2%)
First State Bank, Lantana	
Bank of Kendall, Miami	
Commercial Bank and Trust Co., Miami	
Merchants Bank, Miami	
Bank of Palm Beach and Trust Co., Palm Beach	
Exchange Bancorporation	321,923.000(2.3%)
Gulf-to-Bay Bank and Trust Co., Clearwater	
Bank of Central Florida, Haines City	
Exchange National Bank, Tampa	
Exchange Bank, Temple Terrace	
Exchange National Bank, Winter Haven	
Exchange Bank, North Winter Haven	
First at Orlando Corp.	574,638,000(4.1%)
Central Brevard National Bank, Cocoa	
Commercial Bank, Daytona Beach	
Peninsula State Bank, Daytona Beach Shores	
St. Lucie County Bank, Ft. Pierce	
Citizens Bank, Gainesville	
Exchange Bank, Holly Hill	
First National Bank, Lake Wales	
First National Bank, Leesburg	
First National Bank, Melbourne	
Central Park First National Bank, Orlando	
College Park First National Bank, Orlando	
First National Bank, Orlando	
Pine Hills First National Bank, Orlando	
Plaza First National Bank, Orlando	
South Orlando First National Bank, Orlando	
Citizens State Bank, St. Cloud	
St. Johns River Bank, Jacksonville	
Tampa Bay Bank, Tampa	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
First Bancshares of Florida, Inc.	$128,203,000(0.9%)
First Bank and Trust., Boca Raton	
University National Bank, Boca Raton	
First National Bank and Trust Co., Riviera Beach	
Citizens Bank of Palm Beach County, West Palm Beach	
First Financial Corp.	594,349,000(4.2%)
First National Bank. Brooksville	
First National Bank. Lakeland	
First National Bank, Plant City	
First National Bank, Punta Gorta	
Broadway National Bank, Tampa	
First National Bank, Tampa	
Second National Bank, Tampa	
Inter City National Bank, Bradenton	
First National Bank, Kissimmee	
Union Trust National Bank, St. Petersburg	
Bayshore State Bank, Bradenton	
First Florida Bancorporation	448,751,000(3.2%)
Desoto National Bank, Arcadia	
First State Bank, Ft. Meade	
State Bank of Haines City, Haines City	
State Bank of Arlington, Jacksonville	
State Bank of Jacksonville, Jacksonville	
National Bank of Melbourne and Trust Co., Melbourne	
National Bank of West Melbourne, Melbourne	
Bank of Mulberry, Mulberry	
Okeechobee County Bank, Okeechobee	
Orlando Bank and Trust Co., Orlando	
Liberty National Bank, St. Petersburg	
Florida State Bank, Sanford	
United State Bank of Seminole, Sanford	
Commercial Bank at Tampa, Tampa	
Marine Bank and Trust Co., Tampa	
Midway Bank, Tampa	
Bank of Zephyrhills, Zephyrhills	
Ormond Beach First National Bank, Ormond Beach	
Volusia County National Bank, Ormond Beach	
Bank of Tavares, Tavares	
State Bank of North Jacksonville, Jacksonville	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Florida National Banks of Florida, Inc.	$1,063,013,000(7.6%)
Florida National Bank, Bartow	
Florida First National Bank, Belle Glade	
Florida Bank, Bushnell	
Florida Bank, Chipley	
Florida National Bank, Coral Gables	
Florida Bank and Trust Co., Daytona Beach	
Florida Bank, Deland	
Florida First National Bank, Fernandina Beach	
Florida Bank, Ft. Pierce	
Florida National Bank, Gainesville	
Florida Dealers and Growers Bank, Jacksonville	
Florida National Bank, Jacksonville	
Florida National Bank at Arlington, Jacksonville	
Florida National Bank at Lake Shore, Jacksonville,	
Florida Northside Bank, Jacksonville	
Florida First National Bank, Key West	
Florida National Bank, Lakeland	
Florida First National Bank, Madison	
Florida National Bank and Trust Co., Miami	
Florida First National Bank, Ocala	
Florida First National Bank, Opalocka	
Florida National Bank, Orlando	
Florida First National Bank, Pensacola	
Florida First National Bank at Brent, Pensacola	
Florida National Bank,Perry	
Florida First National Bank, Port St. Joe	
Florida National Bank, St. Petersburg	
Florida Bank, Starke	
Florida First National Bank, Vero Beach	
Florida National Bank and Trust Co., West Palm Beach	
Jefferson Bancorp, Inc.	50,355,000(0.3%)
Jefferson National Bank, Miami Beach	
Jefferson National Bank at Sunny Isle, North Miami Beach	

TABLE 25

BANK	TOTAL DEPOSITS
Pan American Bancshares	$50,355,000(0.3%)
University National Bank, Coral Gables	
Commercial National Bank of Broward County, Ft. Lauderdale	
Pan American Bank of Hialeah	
Pan American Bank, Miami	
Pan American Bank of Dade County, North Miami Beach	
First Bank of Plantation, Plantation	
Pan American Bank, Miami Beach	
Southeast Bancorporation, Inc.	1,093,101,000(7.8%)
Deerfield Beach Bank and Trust Co., Deerfield Beach	
Everglades Bank and Trust Co., Ft. Lauderdale	
Bank of Hollywood Hills, Hollywood	
First Bank and Trust Co., Jacksonville	
Citizens Bank of Brevard, Melbourne	
Coral Way National Bank, Miami	
First National Bank, Miami	
First National Bank of Miami Springs, Miami Springs	
Bank of Miramar, Miramar	
Southeast National Bank, Orlando	
First National Bank, Satellite Beach	
First City Bank, Tampa	
United Bancshares of Florida, Inc.	360,345,000(2.5%)
Coral Gables First National Bank, Coral Gables	
United National Bank of Dadeland, Miami	
United National Bank, Miami	
Miami Beach First National Bank, Miami Beach	
Security Exchange Bank, West Palm Beach	

ONE BANK HOLDING COMPANIES

BANK	TOTAL DEPOSITS
Charter Company	$34,235,000(0.2%)
Jacksonville National Bank, Jacksonville	
Combanks Corp.	136,748,000(0.9%)
Commercial Bank, Apopka	
South Seminole Bank, Fern Park	
First National Bank, New Smyrna	
North Orlando Bank, Orlando	
Commercial Bank, Pine Castle	
Commercial Bank, Winter Park	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Combanks Corp. (cont.)	$34,235,000(0.2%)
Orlando Bank and Trust Co., Orlando	
Palm Beach Mall Bank,West Palm Beach	
First State Bank, Winter Garden	
Westside Commercial Bank, Winter Park	
Dania Corp.	66,211,000(0.4%)
Dania Bank, Dania	
Data Lease Financial Corp.	157,893,000(1.1%)
Commerce National Bank, Lake Worth	
Miami National Bank, Miami	
First American Bank, North Palm Beach	
Bank of Stuart, Stuart	
Bank of Florida, Miami	
Eleven Inc.	60,734,000(0.4%)
Lauderdale Beach Bank, Ft. Lauderdale	
Wilton Manors National Bank, Ft. Lauderdale	
Florida Bancshares	70,887,000(0.5%)
Mercantile National Bank, Miami Beach	
General Financial Systems, Inc.	150,712,000(1.0%)
Community Bank, Boca Raton	
Marine National Bank, Jacksonville	
First Bank and Trust Co. of Jupiter, Jupiter	
First National Bank and Trust Co., Lake Worth	
First Commercial Bank, Live Oak	
Congress National Bank, Palm Springs	
First Marine Bank and Trust Co., Riviera	
Peoples Bank, Gainesville	
Industrial Guaranty Bancorp	36,857,000(0.2%)
National Industrial Bank, Miami	
Citizens Bank and Trust Co., Sarasota	
Lykes Brothers, Inc.	107,731,000(0.7%)
Bank of Clearwater, Clearwater	
Clearwater Beach Bank, Clearwater Beach	
Lykes Financial Corp.	98,886,000(0.7%)
First National Bank, Palm Beach	
Palm Beach Mall Bank, West Palm Beach	
Mickler Corp.	72,701,000(0.5%)
First National Bank, Clearwater	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Swain Groves, Inc.	$11,392,000(0.01%)
Lake Region Bank of Commerce, Winter Haven	
Teleposit, Inc.	22,926,000(0.1%)
Boulevard National Bank, Miami	
Unicapital Corp.	14,903,000(0.1%)
First National Bank, Cape Canaveral	

AFFILIATED BANK GROUPS

BANK	TOTAL DEPOSITS
Ballard Group	$89,591,000(0.6%)
First Bank of Gulfport, Gulfport	
Madeira Beach Bank, Madeira Beach	
First Park Bank, Pinellas Park	
First Gulf Beach Bank and Trust Co., St. Petersburg Beach	
First Bank, Treasure Island	
Barber Group	52,141,000(0.3%)
Beach Bank, Vero Beach	
Indian River Citrus Bank, Vero Beach	
Sebastian River Bank, Sebastian	
Bond Group	27,732,000(0.1%)
Avon Citrus Bank, Avon Park	
First National Bank, Sebring	
Brannen Group	34,804,000(0.2%)
Crystal River Bank, Crystal River	
Dunnellon State Bank, Dunnellon	
Homosassa Springs Bank, Homosassa Springs	
Bank of Inverness, Inverness	
British American Bank Ltd.	57,883,000(0.4%)
Citizens Bank, Clermont	
First National Bank, Merritt Island	
American National Bank and Trust Co., St. Petersburg	
Carney-Kettle Group	47,206,000(0.3%)
Dixie National Bank, Miami	
County National Bank, North Miami Beach	
Clements Group	7,726,000(0.01%)
First State Bank, Lutz	
First State Bank, Winter Garden	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Collings Group	$92,874,000(0.6%)
American National Bank and Trust Co., Ft. Lauderdale	
Sunrise American Nationa Bank, Ft. Lauderdale	
Crapps Group	22,563,000(0.1%)
Hamilton County Bank, Jasper	
First National Bank, Live Oak	
Creal Group	7 108,000(0.01%)
Citizens Bank, Bunnell	
Flagler Beach Bank, Flagler Beach	
Crews Group	18.619 000(0.1%)
First National Bank, Wauchula	
Wauchula State Bank, Wauchula	
Deberry Group	28,363,000(0.2%)
Bank of New Smyrna, New Smyrna Beach	
Halifax National Bank, Port Orange	
Dunlap-Oak Group	71,055,000(0.5%)
Bank of Coral Gables, Coral Gables	
Midtown Bank, Miami	
Riverside Bank, Miami	
Edison Group	39 134,000(0.2%)
Edison National Bank, Ft. Myers	
Security National Bank, Ft. Myers	
Ellis Group	351,147,000(2.5%)
Bank of Blountstown, Blountstown	
First National Bank, Bradenton	
Commercial Bank, Dade City	
Bank of Jay, Jay	
American Security Bank, New Port Richy	
First National Bank, New Port Richy	
Harbor State Bank, Safety Harbor	
Northeast National Bank, St. Petersburg	
American Bank, Sarasota	
Manasota Bank, Sarasota	
Sarasota Bank and Trust Co., Sarasota	
Ellis National Bank of Tampa, Tampa	
First National Bank, Tarpon Springs	
Springs State Bank, Tarpon Springs	
Longboat Key Bank, Longboat Key	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Fant Group	$20,977,000(0.1%)
First Guaranty Bank and Trust Co., Jacksonville	
Five Points Guaranty Bank, Jacksonville	
First National-Ft. Lauderdale Group	268.789,000(1.9%)
First National Bank Ft. Lauderdale	
Guaranty First National Bank, Ft. Lauderdale	
Ocean First National Bank, Ft. Lauderdale	
Plantation First National Bank, Plantation	
Security First National Bank, Plantation	
First National-Ft. Myers Group	97.529,000([illegible]
First National Bank, Ft. Myers	
Beach National Bank, Ft. Myers Beach	
Garner-Buker Group	192,454,000(1.3%)
Hialeah-Miami Springs First State Bank, Hialeah	
North Hialeah First State Bank, Hialeah	
Airport First State Bank, Miami	
First State Bank, Miami	
Gay Group	10[illegible],099,000(0.7%)
Citizens National Bank, Orlando	
Orange State Bank, Orlando	
Griffin Group	26,715,000(0.1%)
Imperial Bank, Lakeland	
First Bank of Lake Placid, Lake Placid	
Griffin-Jackson Group	12 394,000(0.02%)
Bank of Osceola, Kissimmee	
Bank of West Orange, Ocoee	
Bank of East Orange, Orlando	
Guardian Group	5,406,000(0.01%)
Indialantic Beach Bank, Indialantic	
First National Bank, Satellite Beach	
Hart Group	43,118,000(0.3%)
Englewood Bank, Englewood	
Port Charlotte Bank, Port Charlotte	
North Port Bank, North Port Charlotte	
Hobbs Group	127,494,000(0.9%)
First National Bank, Lighthouse Point	
First National Bank, Margate	
Beach First National Bank, Pompano Beach	
First National Bank, Pompano Beach	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Hunt Group	$28,349,000(0.2%)
Bank of Commerce of Florida, Ft. Lauderdale	
Bank of Florida, Ft. Lauderdale	
Bankers Bank of Florida, Ft. Lauderdale	
Jarrard Group	44,753,000(0.3%)
Deland State Bank, Deland	
First National Bank, Maitland	
Jenkins Group	63,381,000(0.4%)
Bank of Indian Rocks, Indian Rocks Beach	
Mid-County Commercial Bank, Largo	
Pinellas Central Bamk and Trust Co., Largo	
Johnson Group	47,482,000(0.3%)
First Community Bank, Largo	
First Commercial Bank, St. Petersburg	
Bank of Seminole, Seminole	
Kester Group	58.469,000(0.4%)
Lighthouse Point Bank, Lighthouse Point	
Oceanside Bank, Pompano Beach	
Pompano Beach Bank and Trust Co., Pompano Beach	
Koenig Group	16,122,000(0.1%)
Key West State Bank, Key West	
Boulevard Bank, Key West	
Lanc Group	27.705,000(0.1%)
First National Bank, Belleair Bluffs	
Florida Bank of Commerce, Clearwater	
Lee County Group	81,423,000(0.5%)
American Bank, Ft. Myers	
Lee County Bank, Ft. Myers	
Lewis Group	50,747,000(0.3%)
Lewis State Bank, Tallahassee	
Florida State Bank, Tallahassee	
Loeffler Group	30,418,000(0.2%)
First National Bank, Venice	
Charlotte County National Bank, Port Charlotte	
Losner Group	25,458,000(0.1%)
First National Bank, Homestead	
First National Bank of Princeton, Princeton	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Mackle Group	$ 9 801,000(0.05%)
First Bank of Deltona, Deltona	
First Bank of Marco Island, Marco Island	
The Manual-Mocarsky Group	29,826,000(0.2%)
Riverland Bank, Ft. Lauderdale	
First Bank of Plantation, Plantation	
Meade Group	43,591,000(0.3%)
First National Bank and Trust Co., Eustis	
Citizens National Bank, Leesburg	
Bank of Mt. Dora, Mt. Dora	
Moody Group	74,812.000(0.5%)
Manatee National Bank, Bradenton	
Westside National Bank, Bradenton	
The Island Bank, Holmes Beach	
Nelson Group	45,488,000(0.3%)
Commercial Bank, Panama City	
Springfield Commercial Bank, Panama City	
Palmer Group	115,385,000(0.8%)
First National Bank and Trust Co., Sarasota	
St. Armands Palmer Bank, Sarasota	
Siesta Key Palmer Bank, Siesta Key	
Parker Group	54,947,000(0.3%)
National Bank, Sarasota	
National Bank of Sarasota, Sarasota	
Poe Group	18.971,000(0.1%)
Bank of Cutler Ridge, Cutler Ridge	
Bank of Perrine, Perrine	
Rutland Group	100,874,000(0.7%)
Central Plaza Bank and Trust Co., St. Petersburg	
St. Petersburg Bank and Trust Co., St. Petersburg	
St. Petersburg City Group	40,858,000(0.2%)
City Bank and Trust Co., St. Petersburg	
Suncoast City Bank, St. Petersburg	
Shaw Group	42,874,000(0.3%)
Bank of Hallandale, Hallandale	
Bank of Hollywood Beach, Hollywood	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Sherman Group	$82,420,000(0.5%)
American Arlington Bank, Jacksonville	
American Beach Boulevard Bank, Jacksonville	
American National Bank, Jacksonville	
Slobusky-Beck Group	85,275,000(0.6%)
Second National Bank, Clearwater	
University City Bank, Gainesville	
Second National Bank, North Miami	
Second National Bank of North Miami Beach, North Miami Beach	
National Bank, St. Petersburg	
Smith Group	33,083,000(0.3%)
Capital City First National Bank, Tallahassee	
Capital City Second National Bank, Tallahassee	
Southern Group	19,350,000(0.1%)
Florida Southern Bank, Palm Springs	
Southern Bank, West Palm Beach	
Teschke Group	51,505.000(0.3%
First National Bank. Delray Beach	
Second National Bank Delray Beach	
Turner Group	57 691.000(0.4%)
Citizens National Bank, Naples	
First National Bank, Naples	
Turner-Woodbury Group	10,405,000(0.05%)
Bank of the South, Pensacola	
Bank of West Florida, Pensacola	
Tooke Group	53,264,000(0.3%)
Bank of Naples, Naples	
Collier County Bank, Naples	
United National Group	13,905,000(0.05%)
United National Bank, Cocoa Beach	
Merritt Island Bank, Merritt Island	
Usina Group	110,568,000(0.7%)
Peoples Hialeah National Bank, Hialeah	
Peoples National Bank of Commerce, Miami	
Peoples First National Bank, Miami Shores	
Peoples American National Bank, North Miami	
Peoples Liberty National Bank, North Miami	
Peoples First National Bank, North Miami Beach	

TABLE 25 (Continued)

BANK	TOTAL DEPOSITS
Westchester Group	$15,748,000(0.1%)
Westchester National Bank of Dade County, Miami	
Midway National Bank, Miami	
Stephens Group	6,807,000(0.01%)
Umatilla State Bank, Umatilla	
Orlando Bank and Trust Co. (First Fla. Bank Corp.)	
Weir Group	93,282,000(0.1%)
Boca Raton National Bank, Boca Raton	
Delray Beach National Bank, Delray Beach	
First National Bank, Ft. Lauderdale (First National-Ft. Lauderdale Group)	
Buker Group	78,232,000(0.1%)
Little River Bank and Trust Co., Miami	
Hialeah-Miami Springs State Bank, Hialeah (Garner-Buker Group)	
White Group	21,383,000(0.02%)
Peoples State Bank, Groveland	
First National Bank of Mt. Dora, Mt. Dora	
Christo Group	44,125,000(0.03%)
First National Bank, Panama City	
The Bay National Bank and Trust Co., Panama City	
Humphress-Carraway Group	15,369,000(0.01%)
Farmers and Merchant Bank, Monticello	
Citizens Bank of Perry, Perry	
Tallahassee Bank and Trust Co., Tallahassee (Barnett Group)	
Wheeler Group	36,309,000(0.03%)
Northside Bank of Tampa, Tampa	
First National Bank of St. Petersburg, St. Petersburg (Charter Bankshares Group)	
Bently Group	67,575,000(0.1%)
First National Bank, Clearwater	
Second National Bank, Tampa (First Financial Corp.)	

Bassett Group	
First National Bank in Palm Beach	86,787,000(0.1%)
First National Bank, Miami (Southeast Bancorporation)	

NOTES TO CHAPTER IV

1. U.S. vs. The Philadelphia National Bank, 374 U.S. 321 (1963).

2. The unique nature of the compensation offered by commercial banks revolves around the liquidity of demand deposits. The abnk is able to offer the safety and convenience of tis deman deposit sercices as well as immediate liquidity. In fact, custom and practice have evolved to the point that demand deposists are directly accorded the "money status" usually reserved for the circulating medium. However, it shoud be recognized that demand deposits have certain liquidity limitations, which preclude an exact interchangeability with the circulating medium. Such things as the need to transact deposit business during banking hours as well as the third party option in accepting deposit transfers reduce demand deposit liquidity below that of coin and currency.

3. While the demand deposit is in the category of financial services described by the Supreme Court as "so distinctive that they are entirely free of effective competition from. . . other financial institutions" this is a declining portion of the bank's operations. When the government filed suit in the Philadelphia-Girard case(1962), demand deposits were 63 percent of total U.S deposits; in December 1969, they were 51 percent of the total. A number of developments, such as the ability of some savings insitutions to transfer funds for the payment of certain bills. the increased use of credit cards, improved technology, reducing float, have decreased any presumed dominance of the commercial banks in the highly liquid funds area. Cohen and Kaufman estimated equations for total deposits, demand deposits, and time deposits for 1951-61 cross-section data and on the basis of interest elasticity for time deposits concluded that "near-bank" deposits are clsce substitutes. For a further discussion of this point see B.C. Cohen and G.G. Kaufman, "Factors Determining Bank Deposit Growth by State: An Empirical Analysis," Journal of Finance, March, 1965, pp. 59-70; L.K. Chelty, "On Measuring the Nearness of Near-Moneys," American Economic Review, June, 1969, pp. 270-281.

4. The geographical boundaries of regional or local markets are difficult to define. The criterion suggested is the area in which a market participant of a certain size would normally operate. The medium-sized fundholder finds he attracts demanders within a restricted area. This area may be approximated by state lines or in other cases by an entire region, i.e., the Southeastern United States. The relatively small fundholder is generally restircted to local market alternatives. This market may also imply a variety of geographical boundaries. In a rural locale, the appropriate area my be within fifteen miles of the bank; in a town, it may be the city limits; in a metropolitan area, it may be a few city blocks.

5. L.V. Chandler, "Monopolistic Elements in Commercial Banking," The Journal of Political Economy, Vol. XLVI, No. 1 (February/December, 1938), pp. 1-22.

6. A notable exception to this rather broad generalization may be found in the market for municipal securities. A small issue of this type may have a limited appeal outside the local market area.

7. Participation of the selling retailer or dealer in this market may indicate some further, indirect participation by a commercial bank which may supply some or all of the funds necessary to carry the consumer paper.

8. Actually such a determination in bank mergers could come under the Calyton Act of the Bank Merger Act. However, in most cases the courts have held the more stringent provisions of the Clayton Act to be supercedent.

9. U.S. vs. The Philadelphia National Bank, p. 356.

10. Ibid., p. 358.

11. This question has been debated extensively in the literature by academians, regulators, and practitioners. The argument is not enjoined here because it is not the focus of this paper and furthermore the evidence of structure/market relationships is considered underboth assumptions. The author's preference for the multi-office, multiproduct interpretation is based on a position he developed in a previous paper. See W.A. McCollough. An Analysis of the Effects of Bank Organization on Bank Market Structure and Performance, master's thesis, University of Florida. 1968. For a further defense of this assumption see D.A. Alhadeff, Monopoly Competition in Banking (Los Angeles: University of California Press, 1954); C.H. Kreps, "Characteristics of Local Banking Competition," Banking and Monetary Studies (Homewood, ILL: R.D. Irwin, Inc., 1963); B. Shull, "Commercial Banks as Multiple-Product Price-Discriminating Firms," Banking and Monetary Studies, edited by Deane Carson (Homewood, Ill: R.D. Irwin, Inc., 1963).

12. One of the first of these state laws to be passed was in New York in 1908 following the collapse of the "Morse-Heinz" chain in Manhattan. This law limited the holding by a trust company of the stock of another monied corporation to 10 percent of the amount of such stock outstanding. Similar laws were enacted by California, New Hampshire, Texas, and Wisconsin. States such as Missouri, New Jersey, and West Virginia have passed laws which in effect prohibit multi-charter banking. For a further discussion see G.C. Fischer, American Banking Structure (New York: Columbia University Press, 1968), pp. 72-121.

13. This situation does not mean unrestricted entry. Entry is still controlled by virtue of the fact that each new location must receive regulatory approval. However, any constraint is something other than the number of offices per charter.

14. Florida Statutes, 1965, Chapter 659.06.

15. R.H. Blodgett, Our Expanding Economy (New York: Rinehart & Co. Inc., 1955), p. 241.

16. Ibid., p. 243.

17. Ibid., p. 245.

18. Any difference in the relative or absolute change reflects the fact that facilities established in or near military or Federal Government installations at the request of the Treasury or Commanding Officer are counted as a banking office and not a bank in unit banking states.

19. D.C. Motter and Deane Carson, "Bank Entry and the Public Interest: A Case Study," The National Banking Review, Vol. I, No. 4 (June, 1964), p. 469-512.

20. For the time being, we are ignoring the product-area questions of the market.

21. The notable exceptions are the metropolitan banks of the Chicago area.

22. It has been estimated that the amount of Florida-owned bank deposits held outside the state is some $2.5 to $3 billion or about one-third of reported in-state deposits. See Richard J. Voght "A Report: Southeast Bancorporation, Inc., 1969," a speech to the Financial Analysts Federation, October 20, 1969.

23. If Florida holding companies are used, it is still evident that Florida has minimal national participation, for the largest Florida group, Southeast Bancorporation is sixty-seventh in size.

24. Quoted in "Florida's Bank Revolution," Florida Trend, March 1970, p. 35.

25. B. Shull and P. Horvitz, "Branch Banking and the Structure of Competition," The National Banking Review, Vol. I No. 3 (March, 1964), p. 325. See also Alhadeff, p. 46; P.D. Butt, Branch Banking and Economic Growth in Arizona and New Mexico (Albuquerque: University of New Mexico, 1960); P. Horvitz, Concentration and Competition in New England Banking, Federal Reserve Bank of Boston, Research Report #2, 1958, p. 135.

26. I. Schweiger and J. McGee, "Chicago Banking," *Journal of Business*, Vol. XXIV, No. 3 (July, 1961). p. 209. See also C.H. Kreps, "Character and Competition of Local Banking: A Summary," unpublished paper, Federal Reserve Bank of Richmond, 1965.

27. J.S. Bain, *Industrial Organization* (New York: John Wiley and Sons, Inc., 1959), p. 113.

28. See McCollough, p. 112, for a critique of the concentration ratio as a tool for studying market structure.

29. The position set forth by the Justice Department in the Philadelphia National Bank Case has been subject to erosion over time. Subsequent legal decisions such as the Provident National Bank decision as well as recent cases brought by the Department of Justice such as action in one-bank holding companies based on potential competition indicate there has been a shift in the position of the Department. It appears they are no longer wedded to the uni-product, uni-area position but have moved in the multi-area, multi-product direction.

30. Bain, p. 128.

31. *U.S. vs. The Philadelphia National Bank*, pp. 363-364.

32. Douglas V. Austin, "Guidelines for Assessing Potential Competition," *Proceedings of a Conference on Bank Structure and Competition 1970,* Federal Reserve Bank of Chicago, 1970, pp. 155-187.

33. The "Virginia Plan" followed by several states permits *de novo* branching only in thelocal market as described by county lines.

34. *U.S. vs. The Philadelphia National Bank.*

35. See. P.M. Horvitz and B. Shull, "The Impact of Branch Banking on Bank Performance," *The National Banking Review*, Vol. II, No. 2 (December, 1964), pp. 143-189. Motter and Carson, p. 108.

36. J.J. Horton, "A Comparative Evaluation of the Adequacy of Florida Banking," *Working Paper 69-11*, Banking and Economic Research Section, Federal Deposit Insurance Corporation, Washington, D.C. 1969, p. 2.

37. *Ibid.*, p. 2.

38. See McCollough; Shull and Horvitz, p. 301-342; Horvitz; Motter and Carson, pp. 469-512; D. Jacobs, "The Framework of Commercial Banking Regulation: An Appraisal," *The National Banking Review*, Vol. I, No. 3 (March, 1964).

39. See Table 24. For a further breakdown of Florida's concentration pattern see Table 25.

40. U.S. Comptroller of the Currency, "The Banking Structure in Evolution," a reprint, _102nd Annual Report, 1964,_ p. 5.

CHAPTER V

FLORIDA BANKING: MARKET PERFORMANCE

An audit of the Florida bank structure regulation must be in terms of how well it accomplishes its equilibrating task. The previous chapter examined the impact of the current structural constraint and possible alternatives on market structure. However, the objective function of minimizing the cost of intermediation is not satisfied by any given market structure. While a certain level of competition may be one element of the optimal set, it does not necessarily describe all other elements of this set. Therefore, this audit will now focus directly on performance data as members of the extant and/or optimal input/output set rather than viewing market structure as a summary or surrogate variable.

This investigation of performance is divided into two areas, the input and the output market. It should be recognized that the dichotomy is somewhat artificial. Conceptually, it is evident that banks operate in different capacities in these markets and the structural effects on performance may vary widely between such markets. However, from an operational point of view, bank performance is not judged on the basis of activity in any one market, but rather is the summation of all activity. The net income, the earnings per share figure, the cost of intermediation, the return on capital - all reflect the net residue of the bank's productive effort. The ultimate performance figure is a function of both input and output. Further, the performance achievements in either of the suggested markets are in some measure a partial derivative of the other market and so neither is wholly independent.

The procedure of examining the markets separately is followed primarily because it is conceptually simpler, and, therefore, facilitates analysis. However, the division of performance analysis into separate markets does not negate the interdependence - it merely requires a final integration before a comprehensive structure-performance relationship can be suggested.

Input Market

The bank's input market is really a multitude of markets in which the banker acquires the factors of production necessary to present a final product in the output market. A complete enumeration of the factors impinging on the production process is exceedingly tedious, and, therefore, some simplification is justified. It is evident that a number of the input factors involved have rather general utility and therefore bank structure would have little effect on the final market price. However, the raw material input, funds, is found in markets in which the commercial bank is a major force, ranging from virtually sole participant in the market for highly liquid funds to one of several participants in the market for less liquid funds.

Investigation of performance and structure in the input market focuses on certain aspects of this nexus: the relative "prices" of the funds purchased; the input mix; and the relative efficiency in transforming these inputs into salable output as reflected in costs of production or capacity utilization.

The performance in the input market which will contribute to the objective of minimizing the cost of intermediation must be stated in terms of price and/or services. Given the output set, the optimal input set would be that which maximized the price paid the fund offerees while presenting those services and/or facilities required to accomodate the intermediation needs in the market. Of course, the constraint introduced in the model requiring the cost of intermediation be sufficient to compensate all factors of production equitably would place an upper limit both on price and the proliferation of services and facilities. This modular constraint is reinforced by those aspects of the regulatory set which limit input price as well as entry.

Compensation for Highly Liquid Funds

In a recent study,[1] Bell and Murphy reported the results of their investigation of the relationship of the costs and service charges attributable to the highly liquid demand deposits of a bank. The empirical evidence which they examined led them to a number of conclusions, two of which are particularly relevant to the compensation question.

(1) The dispersion in service charges among banks can be explained largely in terms of cost factors. However, the relationship suggested by the data was an inelastic one as changes in the cost of servicing demand deposits

were matched by a less than proportionate change in service charges.

(2) As a general rule, the income realized from service charges was less than the processing cost per demand deposit account.

These conclusions suggest that price compensation in this market is somewhat implicit in nature. The difference between the cost of providing a demand deposit account and the charges collected for such services is the price compensation offered the fundholder. Given that the bank is minimizing its costs of providing the demand deposit account while meeting the service and convenience demands of the public, fund compensation is maximized and the cost of intermediation minimized when the service charge is minimized.

A number of studies have been promulgated in an attempt to establish the relationship between service charges and bank structure. The general consensus has been that multi-office banking is associated with higher service charges than the alternative.

An examination of the data for Florida as compared with other states tends to confirm the generalization (see Table 26). The average service charge/demand deposit ratio is the highest in the unrestricted multi-office states and the lowest in the restricted multi-office environment with the uni-office areas falling in-between. However, it should be noted that Florida's ratio is among the highest in the United States, exceeding all but six other states.[3] In fact, the survey by Pugh and Woods of average bank service charges on business accounts in the South showed the Florida areas consistently among the highest although all of the other states surveyed had some form of multi-office banking.[4]

TABLE 26

RATIO OF SERVICE CHARGES TO DEMAND DEPOSITS FOR ALL BANKS BY STATES, DECEMBER, 1970*

Unit Banking States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Arkansas	.50	.44	.44	.63	.56	.62
Colorado	1.47	1.41	1.61	1.69	1.20	.40
Florida	1.13	1.33	1.57	1.19	.73	.24
Illinois	.58	.36	.53	.78	.77	.35
Iowa	.52	.46	.50	.71	.54	.23
Kansas	.62	.48	.70	.95	.66	.19
Minnesota	.89	.76	1.00	1.07	1.12	.28
Missouri	.51	.34	.53	.75	.69	.13
Montana	.86	.94	.69	1.03	.78	--**
Nebraska	.53	.46	.56	.72	.92	.27
North Dakota	.49	.36	.51	.75	.73	--
Oklahoma	.81	.63	.77	1.32	.83	.15
Texas	.88	.68	1.02	1.08	.87	.27
West Virginia	.32	.24	.35	.36	.33	--
Wyoming	.92	1.03	1.08	.75	.61	--
Average	.735	.661	.791	.919	.759	.284

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* The cross-sectional analysis is used here and elsewhere in the study. Time-series data are not ignored. However, where the relationships remain relatively constant over time, the statistics presented will be for the latest time period.

**Because of the small number of banks in this category the data are not published.

TABLE 26 (Continued)

Limited Branching States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Alabama	.65	.45	.73	.71	.73	.67
Georgia	1.11	1.15	1.00	1.25	1.05	.81
Indiana	.35	.26	.32	.34	.52	.38
Kentucky	.31	.22	.28	.41	.51	.41
Louisiana	.75	.76	.76	.73	.87	.56
Massachusetts	.80	.87	.89	.85	.74	.55
Michigan	.69	.53	.69	.76	.69	.74
Mississippi	.63	.48	.62	.66	.81	--
New Hampshire	.81	.88	.90	.75	.66	--
New Jersey	.78	.81	.46	.80	.89	.68
New Mexico	.95	1.52	1.06	.89	.77	.66
New York	.77	.67	.85	.82	.88	.58
Ohio	.60	.54	.57	.60	.70	.53
Pennsylvania	.40	.30	.37	.44	.42	.44
Tennessee	.40	.29	.37	.48	.64	.47
Wisconsin	.60	.60	.63	.63	.51	.18
Average	.663	.646	.656	.695	.712	.547

TABLE 26 (Continued)

Statewide Branching States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Alaska	1.23	--	--	--	1.41	--
Arizona	1.08	--	--	--	--	.89
California	1.33	--	1.84	1.37	1.22	.97
Connecticut	.81	1.31	.92	.77	.75	.61
Delaware	.37	.34	.54	.12	.--	.29
Hawaii	.47	--	--	--	.35	.58
Idaho	.85	.80	.84	.77	.92	1.06
Maine	.69	--	.84	.62	.70	.64
Maryland	.68	.45	.57	.84	.78	.86
Nevada	.92	--	--	--	--	1.04
North Carolina	.60	.57	.52	.61	.68	.70
Oregon	1.35	1.73	1.13	1.29	1.61	1.08
Rhode Island	.41	--	.38	--	.46	--
South Carolina	.59	.63	.56	.48	.83	.73
South Dakota	.50	.42	.50	.81	.61	1.16
Utah	1.50	2.04	1.36	1.42	1.84	.84
Vermont	.81	.74	1.05	.72	.81	--
Virginia	.56	.47	.50	.52	.75	.80
Washington	1.75	1.68	1.69	2.11	1.78	1.26
Average	.868	.937	.883	.889	.966	.844

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, July, 1971.

While it is conceivable that a change in the Florida regulatory set could cause a rise in service charges, the evidence would indicate a relatively low probability that this would occur. The fact that Florida's charges are already higher than 85 percent of all other states, regardless of regulatory set, would suggest that an absolute increase in service charges should not be anticipated with a change in office regulation.

Another factor which would suggest no negative effect on service charges is the recent outbreak of "free" checking account competition in Florida and many other states. This competition, constituting effective and significant price cutting, represents a sharp break from the traditional quiescent price policy of banks in this area. A recent study suggested a possible relationship between broad measures of market structure and this "price" competition.[5] A high correlation was found between the ease of entry and the introduction of "free" checking plans and in many cases it was found that relatively small banks on the fringe of a banking market have been instrumental in initiating such competition. While this form of competition has emerged under all regulatory sets, it would appear that the relative ease of entry and multitude of banking offices under the multi-office set are more conducive to such. Thus, it may be that allowing Florida to go to multi-office banking will introduce this form of price competition to even more local banking markets and reduce the average service charge.

However, it should be noted there are some substantial difficulties in relating conclusions regarding service charges directly to the cost of intermediation. The coincidence between the minimization of the cost of intermediation and the lowest possible service charge is contingent upon the bank's productive efficiency as well as attention to the social costs of inconvenience and lack of service.

Cost of intermediation is minimized when the liquid fundholder's compensation is maximized. This compensation is the difference between the cost of providing the demand deposit and the service charge. It is, therefore, entirely possible that a lower service charge can be associated with reduced fundholder compensation. For example, Bank A may reduce its cost of offering the demand deposit by maintaining a single location, restricted hours, a single type of demand deposit, etc. It may then impose a low service charge but the cost/charge differential, which is the fundholder's compensation, may be lower than that offered by Bank B which has a higher service charge. Bank B also has multiple locations, extended hours, several specialized checking plans, etc. This effort to offer service and convenience has increased the bank's cost per demand deposit. However, the service charge has not been increased proportionately and the resulting cost/charge spread has increased the fundholder's compensation.

In fact, this may explain why the level of service charges invariably indicates better market performance under uni-office banking whereas almost all other measures of performance favor multi-office banking. The true performance indicator is the cost/charge differential and not the charge alone. And as Bell and Murphy noted:

> . ... When branch systems are compared to unit banks with the same direct marginal cost, generally higher service charges are observed, presumably because of

> greater occupancy costs such as rental and depreciation on buildings which are not considered direct processing costs.[6]

Further, this cost association may be a function of the typical growth pattern of unrestricted multi-office banking. Increasing bank size through branching may increase the number of large accounts absolutely and even relatively as a percentage of total deposits, but as a percent of total accounts, the number declines as branch penetration of local markets multiplies the number of small individual accounts and increases service charges to deposits more than proportionately.

Further complicating the nexus between the service charge and the cost of intermediation is the fact that the fundholder often appears to be relatively insensitive to the charge. Perhaps because of the implicit nature of the compensation, surveys[7] have suggested that most fundholders, when placing their liquid funds, seek the maximum in service and convenience with little reference to price. In truth, it appears that the depository decision of the fundholder is a function of several variables including service variety and quality, convenience, attractiveness, associative value, and compensation. The optimal regulatory set, in terms of the cost of intermediation, will be the one which maximizes the fundholder's utility as measured by the several variables noted.

In summary, compensation for the highly liquid funds in the market is multi-dimensional. The price dimension of this compensation is implicit in nature and is the difference between the cost and service charge per deposit. Although service charges may increase in Florida under multi-office banking, it appears likely that the total compensation would also rise. This would be due to the fact that the rise in cost per deposit under multi-office banking would not likely be matched by a proportionate increase in charges.

The other dimensions of compensation for these funds are generally nonprice oriented. It was noted in Chapter IV that the "structural dimensions of performance" such as convenience are maximized under multi-office banking. Florida's relatively inconvenient, under-banked conditions could be rapidly rectified under multi-office banking. The service dimensions of the fundholder's compensation is a subject of later discussion. However, it would appear, at least tentatively, that in those areas of liquid fundholder compensation examined, the Floridian could expect some increased compensation and a resulting decrease in the cost of intermediation under the multi-office regulatory set.

Rates on Time and Savings Deposits

Another aspect of the cost of intermediation is the rate paid on the "less liquid" funds placed with the bank. Minimization of the objective function would be approached as the rates paid on these deposits increased while all other factors were held constant. The question of how a change in bank structure might affect Florida in this area would apparently be a function of the relationship between these rates and the alternative regulatory sets.

There is a greater possibility for the expression of bank structure effect on market performance in the rate paid on time and savings deposits than in the demand deposit service charge. Regulation permits an explicit input payment and, within the maximum prescribed, there is the possibility of establishing a structure-performance relationship.

However, the possibility of explicit price competition tends to diminish in an inflationary environment. The demand for funds consistently pushes the prices paid up against the regulatory maximum. The Federal Reserve Survey of Time and Savings Deposits in November of 1970[8] found that virtually all of the large banks and most of the smaller ones had been paying ceiling rates for many months. In fact, all banks were paying the maximum on time deposits of $100,000 or less with a maturity of less than one year as of July 31, 1970.

On the other hand, an investigation of the ratio of interest paid to time deposits by state as of December, 1970 (see Table 27) shows some discernible differences. Statewide branching states had the highest overall average followed in order by unit banking and then limited branching states. The Florida averages were equal to or better than the average rates for the multi-office states as a group, although they were exceeded by many of the individual branching states.

Although some forms of multi-office banking appear to be consistent with higher rates on time and savings deposits, the rate pattern suggests that bank structure may be a minor or non-determining variable at the state level. The level of economic activity within the state, the state or regional demand for funds, and bank size all seem to be more important determinants. In fact, the latter element,

TABLE 27

RATIO OF INTEREST PAID TO TIME DEPOSITS FOR ALL BANKS BY STATE, DECEMBER, 1970

Unit Banking States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Arkansas	4.55	4.36	4.56	4.68	5.0	4.74
Colorado	4.68	4.45	4.72	4.76	5.01	5.02
Florida	4.86	4.85	4.86	4.63	4.80	4.78
Illinois	4.46	4.28	4.49	4.52	4.60	4.78
Iowa	4.66	4.55	4.72	4.76	4.81	4.44
Kansas	4.68	4.62	4.70	4.73	4.95	5.51
Minnesota	4.69	4.59	4.72	4.82	4.90	5.10
Missouri	4.65	4.48	4.68	4.78	4.89	4.99
Montana	4.68	4.61	4.62	4.69	5.06	--*
Nebraska	4.37	4.13	4.70	4.85	4.84	4.77
North Dakota	4.87	4.76	4.96	5.03	4.98	--
Oklahoma	4.48	4.38	4.71	4.55	4.59	4.46
Texas	4.61	4.29	4.62	4.74	4.94	5.43
West Virginia	4.28	3.97	4.28	4.38	4.58	--
Wyoming	4.66	4.51	4.79	4.62	4.79	--
Average	4.61	4.46	4.68	4.70	4.85	4.91

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*Because of the small number of banks in this category the data are not published.

TABLE 27 (Continued)

Limited Branching States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Alabama	4.70	4.74	4.62	4.66	5.05	4.71
Georgia	4.80	4.75	4.77	4.85	5.02	5.04
Indiana	4.60	4.43	4.60	4.65	4.71	4.68
Kentucky	4.28	4.05	4.19	4.57	4.73	4.54
Louisiana	4.67	4.37	4.78	4.59	4.81	5.12
Massachusetts	4.44	3.90	4.20	4.35	4.68	4.79
Michigan	4.56	4.12	4.40	4.54	4.55	4.91
Mississippi	4.57	4.40	4.56	4.72	4.52	--
New Hampshire	4.12	3.76	3.77	4.51	4.22	--
New Jersey	4.43	4.56	4.35	4.38	4.46	4.49
New Mexico	4.70	4.89	4.51	4.61	5.16	5.09
New York	4.66	3.95	4.57	4.43	4.84	5.26
Ohio	4.24	4.06	4.20	4.24	4.39	4.56
Pennsylvania	4.33	4.01	4.21	4.29	4.53	4.80
Tennessee	4.67	4.60	4.58	4.74	4.82	5.10
Wisconsin	4.65	4.45	4.67	4.71	4.93	5.22
Average	4.53	4.32	4.44	4.55	4.73	4.88

TABLE 27 (Continued)

Statewide Branching States	All Banks	Total Deposits (in millions) Under $5	$5-10	$10-25	$25-100	Over $100
Alaska	5.19	--	--	--	5.28	--
Arizona	5.17	--	--	--	--	5.10
California	5.04	--	4.81	5.02	5.14	5.11
Connecticut	4.41	3.20	4.39	4.42	4.57	4.73
Delaware	4.20	4.17	3.88	4.15	--	4.58
Hawaii	5.67	--	--	--	5.94	5 48
Idaho	4.63	4.23	4.88	4.52	5.10	4.79
Maine	4.36	--	4.23	4.32	4.56	4.43
Maryland	4.29	4.06	4.34	4.34	4.45	4.28
Nevada	5.03	--	--	--	--	5.02
North Carolina	4.87	4.71	4.65	4.99	5.10	5.03
Oregon	4.74	4.72	4.68	4.72	4.86	4.97
Rhode Island	5.02	--	--	--	5.83	--
South Carolina	4.37	4.17	4.38	4.49	4.91	4.12
South Dakota	4.78	4.68	4.81	5.12	5.08	5.10
Utah	4.68	4.64	4.69	4.48	4.82	5.13
Vermont	4.33	3.82	4.23	4.39	4.91	--
Virginia	4 65	4.40	4.65	4.64	4.79	4.87
Washington	4.65	4.57	4.54	4.69	4.84	4.97
Average	4.74	4.28	4.51	4.59	5.01	4.36

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, July 1971.

bank size, has appeared, in time past, to be the most important determinant of the relative level of these rates. It is evident in Table 27 that the average ratio increases with increases in size so that the largest banks have the highest ratios regardless of the regulatory set. The Federal Reserve survey of 1966[9] revealed that when the overall demand for funds is less, the size differential is even more evident as the larger banks tend to be committed to higher rates in order to support their competitive position in the larger markets. To the extent that multi-office banking encourages or facilitates the emergence of large banks,[10] then it would appear that this regulatory set will be more consistently associated with relatively higher rates than the uni-office alternative.

Perhaps a more valid statement of the impact of structure on interest paid is to be found within those states where all types of structures are permitted and the alternatives compete on the local level. Several studies have been undertaken on this question and the consensus generally agrees with the conclusion reached in the New York Bank Study:

> The large branch banks have usually paid the highest rates among the banks since the early 1950's. In almost all communities where both unit and branch banks were located, they paid identical rates.[11]

Further, the work done by Shull and Horvitz[12] on the rates paid in rural towns tends to substantiate the suggested structure/rate relationship. They found a significant degree of correlation between the branching law of the state and the interest rates being paid in such areas. In fact, they found that the greater threat of entry coincidental with minimum branching restrictions caused unit banks in branching states to become more price competitive in this area.

Based on these several studies, it would appear that the introduction of multi-office banking to Florida would have the desired effect on the cost of intermediation. Within the limits defined by regulatory maximums and the state's economic environment, it is probable that multi-office banking would lead to rates within the state that were higher than those which appear under the existing regulatory set. Larger banks and more local penetration could be expected to raise Florida rates relative to current or possible levels under unit banking.

Deposit Structure

Deposit structure, like most other indicia of bank performance, is a function of several variables. In part, it is merely an extension of the bank's rate structure for inputs. Changes in the compensation for the various sources of funds will result in changes in the fund input combination. However, there are external variables such as the level of income and depository alternatives which may play important roles in determinig the input composition.

In terms of the objective function, the optimal deposit structure would be the one consistent with maximum sustainable compensation[13] for the fund inputs. The global view of the intermediation process would be indifferent as to which financial institution successfully captured the input as long as the result was the minimization of the cost of intermediation.

It would appear that deposit structure in commercial banking approaches optimality as time to total deposits increase. A change in time deposit rates alters the relative rates on time and demand deposits. Inasmuch as these are partial substitutes for each other, a rise in time deposit rates should increase the time to total deposit ratio. Furthermore while there are no alternative depositories for the highly liquid funds, there are several for these less liquid, store of value funds. Therefore, the mere presence of the commercial bank in the market for these funds at all levels provides a viable alternative for the offerees and an increased time to total deposit ratio may reflect this added service. It would, therefore, follow that, other things being equal, the higher the time to total deposit ratio, the better the market performance in terms of input price and service and the lower the cost of intermediation.

Looking directly at the time-to-total deposit ratio in the various states (Table 28), it is evident that this ratio is higher in those states which permit some form of multi-office banking. Florida's ratio of 50.9 percent is well below the average of the multi-office states and stands thirty-first among all states.

The difference in this ratio is particularly noticeable in the largest bank category. Apparently the nature of time deposit servicing changes in the larger banks and the demands of the fund-holders in national markets create new forms of competition, i.e., certificates of deposits. The larger unit bank tends to move into this market, where relative price is the most important variable, almost to the exclusion of the local market, where convenience is primary. On the other hand the large branch banks maintain an active position in both markets - they have the resources to issue

TABLE 28

TIME AND SAVINGS DEPOSITS AS A PERCENTAGE OF TOTAL DEPOSITS BY STATES AND BANK SIZE, DECEMBER 31, 1970

Unit Banking States

States	All Banks	Banks with Total Deposits (millions) Under 5	5-10	10-25	25-100	Over 100	* All Banks - Other Time Deposits, IPC, to Total Time and Savings Deposits
Arkansas	45.6	42.2	47.2	49.6	44.6	33.0	51.9
Colorado	48.5	47.7	47.8	48.7	52.1	44.9	41.6
Florida	50.9	47.9	52.7	52.6	50.3	37.7	43.7
Illinois	55.3	50.3	56.7	57.8	59.7	53.5	45.3
Iowa	55.8	54.5	57.9	56.6	55.1	37.0	67.5
Kansas	48.8	48.3	50.0	49.8	46.8	32.9	53.7
Minnesota	62.9	64.0	63.0	61.5	61.9	41.1	68.2
Missouri	46.7	44.0	48.0	49.2	51.5	32.8	59.9
Montana	54.3	52.3	55.4	55.4	55.7	--	66.1
Nebraska	43.2	39.2	49.4	50.9	52.6	33.5	73.2
North Dakota	56.8	55.5	57.2	59.9	58.1	--	79.0
Oklahoma	46.4	42.8	49.1	52.4	48.3	32.5	50.4
Texas	42.6	36.5	44.0	46.7	48.4	41.3	56.0
West Virginia	54.7	52.1	55.5	57.6	52.6	--	36.5
Wyoming	50.7	42.6	53.8	55.0	48.4	--	49.5
Average	50.8	47.9	52.5	53.6	52.4	35.1	35.1

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*Other Time Deposits, IPC consist primarily of certificates of deposits and exclude all savings accounts.

TABLE 28 (Continued)

Limited Branching States

States	All Banks	Banks with Total Deposits (millions) Under 5	5-10	10-25	25-100	Over 100	All Banks - Other Time Deposits, IPC, to Total Time and Savings Deposits
Alabama	50.2	49.3	50.7	52.2	47.6	40.5	47.7
Georgia	49.2	48.1	51.6	49.0	48.9	41.0	61.5
Indiana	56.3	55.4	58.1	57.5	53.9	49.7	59.1
Kentucky	42.5	37.1	41.0	50.2	49.6	39.1	58.8
Louisiana	49.2	50.7	51.6	48.0	46.7	45.3	40.9
Massachusetts	38.1	43.1	38.4	37.2	37.9	37.6	41.7
Michigan	67.6	65.3	68.2	68.6	67.3	66.2	41.8
Mississippi	44.8	41.9	45.5	45.9	45.7	--	56.9
New Hampshire	45.3	31.8	50.1	54.7	44.7	--	35.4
New Jersey	58.3	52.7	57.0	58.7	61.7	54.3	30.6
New Mexico	48.7	52.6	50.0	46.0	49.4	50.9	40.7
New York	57.2	56.6	58.3	62.5	58.3	48.9	45.6
Ohio	62.0	61.0	64.4	62.9	61.7	53.8	40.0
Pennsylvania	65.8	64.8	69.2	68.3	62.4	55.9	42.1
Tennessee	54.6	52.3	55.2	58.0	55.0	44.5	41.7
Wisconsin	64.9	65.8	66.2	65.1	59.6	46.0	53.3
Average	53.4	51.8	54.7	55.3	53.1	48.1	46.1

TABLE 28 (Continued)

Statewide Branching States

States	All Banks	Banks with Total Deposits (millions) Under 5	5-10	10-25	25-100	Over 100	All Banks - Other Time Deposits, IPC, to Total Time and Savings Deposits
Alaska	57.3	--	--	--	51.1	--	15.7
Arizona	57.9	--	--	--	--	58.3	48.3
California	54.6	44.1	59.8	52.7	54.1	59.1	35.9
Connecticut	48.9	43.0	50.3	51.2	50.3	44.0	31.8
Delaware	51.3	52.7	57.3	47.1	--	42.2	39.9
Hawaii	60.5	--	--	--	60.5	60.4	41.8
Idaho	52.6	53.9	52.9	53.2	47.5	53.0	68.1
Maine	59.3	--	66.5	62.8	49.5	46.5	31.8
Maryland	58.5	64.0	61.0	58.1	52.8	42.4	20.4
Nevada	60.8	--	--	--	--	58.5	30.8
North Carolina	53.0	53.8	55.4	51.8	52.1	51.2	43.3
Oregon	60.7	59.2	61.3	62.2	59.0	58.9	33.4
Rhode Island	25.2	--	5.4	--	36.3	--	26.2
South Carolina	38.2	37.1	38.9	37.9	45.7	28.3	48.6
South Dakota	55.3	54.3	56.1	56.0	60.2	59.6	75.0
Utah	58.5	56.7	57.4	63.8	58.2	50.6	36.6
Vermont	63.5	55.5	58.6	69.4	68.6	--	28.0
Virginia	60.6	58.5	62.1	62.4	57.7	56.7	43.4
Washington	54.8	52.5	55.3	59.2	54.3	53.2	36.1
Average	54.3	52.7	53.2	62.7	53.6	51.4	38.7

Source: Bank Operation Statistics, 1970, Federal Deposit Insurance Corporation, July 1971 competitive certificates of deposits and they have the local outlets to provide competitive convenience for small depositors.[15]

Reference to Table 28 will give some indication of the relative importance of non-local sources of store of value funds.[16] Although there are some large variations, the difference between the relative importance of the certificate of deposit as a source of funds for the bank is particularly wide (30.7 - multi-office, versus 56.2 - uni-office). Florida's figure of 43.7 was higher than the multi-office average and has been fairly constant over the last three years. It would appear that the increased inflow of store of value funds that could be expected with the multi-office set would be primarily through savings accounts thus decreasing the relative, but not necessarily absolute, importance of the certificate of deposit.

Another approach to this question is to relate the propensity of the population to save via local financial institutions to the regulatory set.[17] It can be seen in Table 29 that the ratio of total savings of this type to personal income per capita tends to be about the same under the several alternatives. This is contrary to the Schweiger and McGee results[18] in which they found that states with multi-office banking had the larger volume of savings in local institutions relative to population income.

However, it can be suggested that these state figures will obscure the local situation and for this reason there is a need to look more intensively at Florida's deposit structure.

Total deposits in Florida as of December 31, 1970, amounted to $13,937,771,000[19] which represented better than 90 percent of the

TABLE 29

RATIO OF SAVINGS HELD IN LOCAL FINANCIAL INSTITUTIONS TO PERSONAL INCOME BY STATE, DECEMBER 31, 1969

Unit Banking States

		*Ratio of Savings to Total Personal Income			
State	Personal Income per Capita	Commercial Banks	Savings & Loan Assn.	Mutual Savings Banks	Total
Arkansas	$2520	23.2	17.1	--	40.3
Colorado	3568	22.6	26.8	--	49.4
Florida	3427	24.9	35.1	--	60.0
Illinois	4310	30.7	27.4	--	58.1
Iowa	3517	31.2	17.4	--	48.6
Kansas	3531	25.6	22.7	--	48.3
Minnesota	3608	31.5	21.9	--	53.4
Missouri	3495	26.9	22.7	--	49.6
Montana	3.24	36.3	11.1	--	47.4
Nebraska	3642	25.8	21.0	--	46.8
North Dakota	3011	40.7	21.7	--	62.4
Oklahoma	3065	25.5	17.8	--	43.3
Texas	3254	30.0	18.6	--	48.6
West Virginia	2610	27.0	8.5	--	35.5
Wyoming	3447	34.1	14.6	--	48.7
Average	$3340	29.1	20.3	--	49.4

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* These ratios are arrived at by computing the per capita savings in each of the financial institutions and then comparing these on a ratio basis with personal income per capita. Thus, the savings in commercial banks (time and savings deposits, IPC) in Arkansas represented 23.2 percent of personal income while holdings in savings and loan associations were 17.1 percent of personal income for a local savings ratio of 40.3.

TABLE 29 (Continued)

Limited Branching States

State	Personal Income per Capita	Ratio of Savings to Total Personal Income Commercial Banks	Savings & Loan Assn.	Mutual Savings Banks	Total
Alabama	$2567	22.0	13.0	--	35.0
Georgia	3040	19.7	19.0	--	38.7
Indiana	3691	25.7	19.0	4.9	49.6
Kentucky	2850	22.0	19.5	--	41.5
Louisiana	2780	23.4	20.5	--	43.9
Massachusetts	4128	11.7	17.1	8.1	36.9
Michigan	3944	34.3	12.4	--	46.7
Mississippi	2192	22.1	15.0	--	37.1
New Hampshire	3474	15.6	13.6	43.6	72.8
New Jersey	4278	23.2	20.4	8.5	52.1
New Mexico	2894	20.7	16.5	--	37.2
New York	4421	29.9	12.7	48.1	90.7
Ohio	3779	26.8	30.6	--	57.4
Pennsylvania	3664	30.3	17.2	8.6	56.1
Tennessee	2810	27.2	16.2	--	43.4
Wisconsin	3647	31.3	23.6	--	54.9
Average	3386	24.1	17.9	7.6	49.6

TABLE 29 (Continued)

Statewide Branching States

State	Personal Income per Capita	Ratio of Savings to Total Personal Income Commercial Banks	Savings & Loan Assn.	Mutual Savings Banks	Total
Alaska	$4512	19.7	5.2	10.6	35.5
Arizona	3336	30.0	17.2	--	47.2
California	4272	28.3	37.1	--	65.4
Connecticut	4537	13.9	10.7	35.5	60.1
Delaware	4013	21.7	4.5	15.0	41.2
Hawaii	3882	24.3	22.5	--	46.8
Idaho	2857	30.3	14.2	--	44.5
Maine	3039	19.1	7.1	27.8	54.0
Maryland	4095	12.9	19.0	5.3	37.2
Nevada	4359	26.9	31.0	--	56.9
North Carolina	2890	19.5	20.0	--	39.5
Oregon	3565	29.4	19.1	--	38.5
Rhode Island	3779	20.4	12.4	30.3	63.1
South Carolina	2580	10.0	22.8	--	32.8
South Dakota	3051	39.2	11.2	--	50.4
Utah	2994	27.3	25.4	--	52.7
Vermont	3267	35.4	5.8	18.7	59.9
Virginia	3294	25.5	10.9	--	36.4
Washington	3835	19.8	19.3	9.1	48.2
Average	3587	23.9	16.6	7.9	48.8

Source: Statistical Abstract of the United States, 1970; Savings and Loan Fact Book, 1970; Report of Income, Assets and Liabilities, Commercial and Mutual Savings Banks, December 31, 1969.

total funds devoted to commercial banking in the state. The size of this figure ranks Florida first (excluding Texas) in total deposits in the South and ninth in the nation. In terms of deposit growth, Florida has experienced a greater percentage increase in deposits (450%+) since 1950 than any of the other larger states.

Consistent with the bank facilities figures, the dollar volume of total deposits is greatest in the more densely populated areas of the state. The banks of the twelve counties with populations in excess of one hundred thousand persons held $11,707,727,000 in deposits or about 84 percent of the state's total.

Within six of these high deposit counties, Dade, Duval, Hillsborough, Orange, Pinellas, and Broward, there is another level of concentration - 15 large metropolitan banks, each of which has a deposit volume as of December 31, 1970 in excess of $115,000,000 (Table 30). These 15 offices represent less than 3 percent of all offices in the state and hold better than 38 percent of all deposits.

An examination of the savings ratios as defined previously within the separate counties reveals rather wide dispersion around the state average (Table 31 and 32). In 8 percent of the counties the savings ratio is less than 10 percent while in 6 percent, the savings ratio exceeds 90 percent. More than half the counties of the state have a savings ratio of less than 40 percent. This information, coupled with the deposit concentration data, indicates Florida's unitary constraint has provided or encouraged multiple local savings outlets in the densely populated areas of the

TABLE 30

FLORIDA BANKS WITH DEPOSITS OVER $115,000,000, DECEMBER 31, 1970

	Total Deposits (Thousands of Dollars)
First National Bank Miami	$823,487
Florida National Bank Jacksonville	292,561
Atlantic National Bank Jacksonville	283,729
First National Bank Tampa	267,928
First National Bank Orlando	233,250
Exchange National Bank Tampa	222,471
Barnett National Bank Jacksonville	206,851
First National Bank Ft. Lauderdale	196,778
Miami Beach First National Miami Beach	186,204
Florida National Bank and Trust Co. Miami	182,094
City National Bank Miami	174,929
First National Bank St. Petersburg	161,003
Union Trust Bank St. Petersburg	152,443
Broward National Bank Ft. Lauderdale	126,477
Marine Bank and Trust Co. Tampa	118,936

Source: Florida Bank Directory, 1971, Florida Bankers Association

TABLE 31

RATIO OF SAVINGS HELD IN LOCAL FINANCIAL INSTITUTIONS TO PERSONAL INCOME IN FLORIDA, BY COUNTIES, 1969

County	Personal Income per Capita	Ratio of Savings to Total Personal Income		
		Commercial Banks	Savings & Loan Assn	Total
Alachua	$2687	18.5	24.6	43.1
Baker	1850	21.1	--	21.1
Bay	2906	17.0	17.0	34.0
Bradford	2161	16.6	21.6	38.2
Brevard	3796	13.7	16.3	30.0
Broward	3443	27.8	48.7	46.5
Calhoun	2246	14.0	--	14.0
Charlotte	2151	43.9	36.9	80.8
Citrus	2178	41.1	18.5	59.6
Clay	1898	21.6	24.6	46.2
Collier	2743	51.8	10.8	62.6
Columbia	2597	23.3	10.6	33.9
Dade	3833	28.4	47.6	76.0
DeSoto	1977	20.3	27.4	47.7
Dixie	2249	17.4	--	17.4
Duval	3339	23.4	12.6	36.0
Escambia	3149	11.1	9.7	20.8
Flagler	2276	30.7	--	30.7
Franklin	1670	13.2	--	13.2
Gadsden	1560	20.8	17.6	38.4

TABLE 31 (Continued)

County	Personal Income per Capita	Ratio of Savings to Total Personal Income		
		Commercial Banks	Savings & Loan Assn.	Total
Gilchrist	$2078	5.6	--	5.6
Glades	2378	--	--	--
Gulf	3134	17.5	15.8	33.3
Hamilton	2856	16.6	--	16.6
Hardee	2253	25.9	24.1	50.0
Hendry	3189	9.7	9.3	19.0
Hernando	1978	51.0	20.4	71.4
Highlands	2660	46.8	20.4	71.4
Hillsborough	3071	25.7	20.8	46.5
Holmes	1654	19.8	--	19.8
Indian River	2951	24.5	20.9	45.4
Jackson	2613	13.8	6.0	19.8
Jefferson	1998	21.4	--	21.4
Lafayette	3360	12.4	--	12.4
Lake	2234	54.4	39.1	93.5
Lee	2775	48.7	28.6	77.3
Leon	2973	17.8	29.5	47.3
Levy	2266	8.3	20.6	28.9
Liberty	2652	--	--	--
Madison	1919	27.1	--	27.1
Manatee	2836	41.3	43.4	84.7
Marion	2244	31.6	20.8	52.4
Martin	2730	47.8	39.4	87.2
Monroe	3491	9.1	8.5	17.6

TABLE 31 (Continued)

County	Personal Income per Capita	Ratio of Savings to Total Personal Income Commercial Banks	Savings & Loan Assn.	Total
Nassau	$2963	5.9	9.3	15.2
Okaloosa	2955	10.2	5.3	15.5
Okeechobee	1604	29.0	33.8	62.8
Orange	3038	41.9	36.0	77.9
Osceola	3059	12.2	20.2	32.4
Palm Beach	3491	29.4	41.1	70.5
Pasco	1753	58.4	23.0	1.4
Pinellas	3071	51.3	64.5	115.8
Polk	2896	27.7	21.0	48.7
Putnam	2421	17.5	19.2	36.7
St. Johns	2995	25.6	15.6	41.2
St. Lucie	2784	15.9	38.6	55.4
Santa Rosa	3149	17.6	9.7	27.3
Sarasota	3181	57.1	74.9	132.0
Seminole	3038	16.1	13.3	29.4
Sumter	1879	11.9	--	11.9
Suwanee	2360	29.7	11.6	41.3
Taylor	2610	18.5	10.5	29.0
Union	2029	13.2	-- 13.2	13.2
Volusia	2695	34.3	58.9	93.2
Wakulla	1870	--	--	--
Walton	2327	14.4	6.7	21.1
Washington	1903	9.2	--	9.2

Source: *Florida Statistical Abstract, 1970*.

TABLE 32

DISTRIBUTION OF FLORIDA COUNTIES
BY SAVINGS RATIOS, 1969

	Savings Ratios				
	0-9.9	10-19.9	20-29.9	30-39.9	40-49.9
Number	5	13	9	10	9
Percentage	7.5	19.4	13.4	14.9	13.4
Cum. Percentage	7.5	26.9	40.3	55.2	68.6

	Savings Ratios				
	50-59.9	60-69.9	70-79.9	80-89.9	90-99.9
Number	4	3	6	4	4
Percentage	6.0	4.5	8.9	6.0	6.0
Cum. Percentage	74.6	79.1	88.0	94.0	100

Source: Table 31.

state, but in the large majority of the counties, the local savings alternatives are less than adequate or at least less than average.

This conclusion is similar to the one reached in the Schweiger and McGee study[20] in which they found the broader the range of local alternatives, the larger the savings ratio. Their examination of local markets in different regulatory environments showed multi-office banking consistently associated with more alternatives and a higher savings ratio than the uni-office set.

While minimization of the cost of intermediation does not require that the "store of value" funds be placed in a commercial bank, commercial bank efforts to secure such funds are looked on as an indication of a competitive environment in which the cost of intermediation can be minimized.

Non-bank competition for these funds is rather diversified and the individual bank would be expected to use the limited price flexibility afforded in this area to combat the loss of such funds to savings and loan associations, credit unions, mutual savings banks, etc. However, the evidence is not conclusive that the presence of a non-bank financial institution has any systematic influence on the rates paid by commercial banks on time and savings deposits. In fact, some studies[21] have concluded that unit banks in unit banking states are not willing or able to compete with the non-bank financial institution for these funds.

It can be seen from Table 33 how this situation has evolved in the Southeast. The savings and loan association is much more pre-

TABLE 33

CERTAIN ASPECTS OF SAVINGS AND LOAN ASSOCIATIONS IN FLORIDA, OTHER SPECIFIED SOUTHEASTERN STATES, AND UNITED STATES, DECEMBER 31, 1969

State	Percent of Total Savings Held by Savings and Loan Associations*	Number of Savings and Loan Associations	Total Assn. Assets (Millions of Dollars)	Per Capita Assets
Florida	59%	135	8,256	1,299
Georgia	47	106	2,682	578
Alabama	36	59	1,177	574
Mississippi	38	77	777	329
Louisiana	46	106	2,133	570
North Carolina	50	182	3,012	579
United States	48	5,898	162,162	803

Source: Savings and Loan Fact Book, 1970, United States Savings and Loan League, 1970; Table 29.

* This figure represents the portion of savings held in local financial institutions maintained in a savings and loan association.

dominant in Florida than in any of its multi-office neighbors or the United States as a whole. In Florida, as a matter of fact, the situation is further intensified by the fact that the savings and loan association is permitted to branch locally. The result has been that the greatest part of the locally held store of value funds (60 percent) have found their way into non-bank financial institutions.

In summary, the deposit structure that is consistent with the minimization of the cost of intermediation is one in which the time-to-total deposit figure is relatively high. The predictability of this relationship depends on how closely it approximates a uni-variant or "all other things being equal" situation.

To the extent that the deposit structure does facilitate the cost minimization objective, the empirical evidence suggests multi-office banking fares better. The time-to-total deposit ratio as well as the local savings ratio are consistently higher under the multi-office alternatives.

Further, the ability or willingness of the commercial bank to compete for these funds appears to be enhanced by the multi-office set.

The Florida situation corresponds to the general pattern and it would be reasonable to forecast an overall higher time-to-total deposit ratio for the state under multi-office banking as well as a reduction in the local markets where local savings outlets are few and savings ratios are particularly low.

Capital Structure

Historically, the capital structure of the commercial bank has been made up exclusively of equity funds. Senior capital (debt instruments and/or preferred stock) was seldom used until the onset of the Depression.[22] Its use during this period was viewed as an emergency measure and most bankers hastened to eliminate such securities from their capital structures as economic conditions improved. So it was that a discussion of the banking system's capital structure in 1960 was singularly uninteresting inasmuch as equity sources supplied 99 percent of all capital funds.

However, during the post-war period commercial banks had been undergoing rapid change in their portfolios as risk assets had increased som 600 percent between 1945 and 1960 as a result of the loan component increasing from 17 percent of total assets to over 50 percent. This shift in portfolio composition as well as the rapid growth of the banks had put a strain on equity as the sole source of capital funds and the risk asset ratio had declined from 25.2 percent in 1945, to 11.7 percent, in 1960.

In response to these pressures, the Comptroller of the Currency published new rulings in December, 1962 permitting national banks to issue a limited amount of capital notes and debentures. Since that date the banking industry has rapidly availed itself of this source of capital and at the beginning of 1970 long-term debt represented some 6 percent of all capital; whereas at the beginning of 1960 it was contributing less that .5 percent.

This rapid increase in the use of debt instruments has led some to suggest:

> The impact on banking of a greater use of debenture capital in the total capitalization picture can be nothing but advantageous . . . as far as the prospect for future sales of common stock by established banks is concerned, the likelihood is that they would be "never" or at best "hardly ever."[23]

The use of senior securities, up to a moderate amount, has some very definite advantages.[24] The most important ones are: (1) the issuance of senior securities avoids the dilution of ownership interest; (2) the use of such financing may provide increased returns to the stockholder from a decreased cost of capital. From the point of view of the cost of intermediation, this additional source of capital funds provides an additional cushion for the depositor and reduces the probability of the infinite cost of failure. In addition, if the bank operates in a relatively competitive market, the reduction in the cost of capital from the moderate use of debt will enhance profitability which will eventually be passed on to customers, thus reducing the cost of intermediation. Other possible intermediation benefits would include:

> Borrowers from a bank with a larger capital base (increased by use of debt) may find such a bank more "aggressive" in its lending policy. . . and more willing to innovate and experiment with new or different ways of providing bank services.[25]

If capital adequacy is a continuing problem, and if the debt can be used to meet this problem and at the same time contribute to a reduction in the cost of intermediation, then the germane question for this study is whether the regulatory set is a determining variable in bankers' decisions as to the source of capital funds.

An examination of the data presented in Table 34 indicated that the use of capital notes and debentures has been much more prevalent under the multi-office set than under the uni-office constraint. The average figure for the former set is twice the average for the latter and in those states where state banks are allowed to use this source the difference is even wider. The Florida figure of 3.9 percent is significantly below the average for the multi-office states of 5.4 percent and is the seventeenth highest figure in the nation. In general, it would appear that the regulatory set is a determining or at least a permissive variable in the use of capital notes and debentures as a source of capital funds.

There is some logic underlying this relationship. The decreased risk and asset concentration resulting from the geographic dispersion of multi-office banking enables the multi-office bank to more readily accept the financial risk inherent in the fixed charges of debt capital. In addition, usage of this form of capital has generally been a big bank phenomenon. Only 4 percent of all insured banks have issued debentures; however, over 40 percent of the 100 largest banks have used this instrument.[26] Large banks, like other large firms, experience an advantage in raising capital of any type - their size and national reputation facilitates sale or placement. In addition, regulations as to the maximum debt-to-capital stock and surplus[27] means that the small bank will

TABLE 34

SOURCES OF CAPITAL FUNDS, COMMERCIAL BANKS, DECEMBER 31, 1969, BY STATES (AS A PERCENT OF TOTAL CAPITAL)

Unit Banking States

State	Capital Notes and Debentures	Preferred Stock	Common Stock	Surplus	Undivided Profits	Reserves
Arkansas	4.4	0.0	26.0	37.9	28.6	3.0
Colorado	3.6	0.1	28.5	41.2	26.0	.6
Florida	3.9	0.1	34.4	41.0	18.4	2.3
Illinois	1.9	0.1	29.7	42.6	15.3	7.5
Iowa	0.9	0.1	22.5	38.6	35.3	2.6
Kansas	1.7	0.1	26.4	42.9	27.7	1.3
Minnesota	4.3	0.1	27.4	37.3	28.7	2.2
Missouri	3.8	0.3	26.2	35.9	31.5	1.4
Montana	1.6	0.0	36.2	37.1	24.6	0.1
Nebraska	1.4	0.1	25.8	35.5	34.9	2.2
North Dakota	2.3	0.0	28.3	36.1	29.8	3.5
Oklahoma	4.6	0.1	27.7	34.6	31.9	1.1
Texas	2.2	0.1	31.8	39.8	22.6	3.5
West Virginia	0.4	0.0	21.9	50.3	23.5	3.9
Wyoming	3.2	0.1	12.7	48.6	32.3	3.2
Average	2.7	0.1	27.0	40.0	27.6	2.6

TABLE 34 (Continued)

Limited Branching States

State	Capital Notes and Debentures	Preferred Stock	Common Stock	Surplus	Undivided Profits	Reserves
Alabama	0.5	0.0	27.6	39.3	29.3	3.2
Georgia	9.4	0.0	23.7	38.5	20.4	8.0
Indiana	1.7	0.0	24.7	42.0	29.7	1.8
Kentucky	1.9	0.1	22.0	48.2	25.1	2.8
Louisiana	2.2	0.6	25.2	47.4	23.5	1.1
Massachusetts	4.6	0.1	23.9	48.5	18.9	4.0
Michigan	10.9	2.5	24.4	41.5	18.5	2.4
Mississippi	2.9	0.1	25.4	67.2	1.9	2.4
New Hampshire	0.5	0.1	19.7	53.0	24.7	2.1
New Jersey	5.1	1.0	26.7	44.3	20.5	3.1
New Mexico	3.3	0.0	30.2	30.5	18.9	17.2
New York	8.0	0.5	26.0	46.4	16.9	2.3
Ohio	2.0	0.1	26.2	49.6	20.8	1.4
Pennsylvania	3.4	0.3	20.9	51.5	21.5	2.4
Tennessee	3.5	0.1	26.5	40.3	27.3	2.3
Wisconsin	3.2	0.1	27.1	43.7	23.9	1.9
Average	3.9	0.1	25.0	45.7	21.4	3.7

TABLE 34 (Continued)

Statewide Branching States

State	Capital Notes and Debentures	Preferred Stock	Common Stock	Surplus	Undivided Profits	Reserves
Alaska	2.0	0.0	35.1	37.5	20.0	5.4
Arizona	16.1	0.0	23.9	37.8	22.0	0.2
California	9.1	0.1	27.1	43.5	18.8	1.4
Connecticut	6.0	0.0	24.4	50.1	19.4	0.1
Delaware	0.0	0.0	27.7	54.1	18.2	0.1
Hawaii	19.8	0.0	22.9	33.4	21.4	2.4
Idaho	3.0	0.1	29.7	48.7	17.3	0.1
Maine	4.7	0.1	31.5	33.5	29.5	0.7
Maryland	3.0	0.0	26.3	44.8	21.3	4.7
Nevada	3.8	0.0	39.6	23.7	23.6	0.1
North Carolina	10.4	0.1	20.7	48.4	19.5	0.9
Oregon	1.0	0.0	36.5	37.3	25.7	0.1
Rhode Island	10.9	0.0	24.8	26.7	28.1	9.5
South Carolina	1.7	0.6	29.9	43.4	21.4	2.8
South Dakota	1.0	0.0	26.9	38.7	32.0	1.9
Utah	2.4	0.0	29.2	49.7	18.5	0.1
Vermont	4.3	0.1	27.6	34.9	30.0	2.1
Virginia	1.4	0.0	31.8	43.2	23.1	1.0
Washington	1.1	0.0	31.7	38.2	27.0	2.3
Average	5.4	0.1	28.8	40.9	23.0	1.9
U.S.	5.1	0.1	26.6	43.9	21.4	2.8

Source: Report of Income, Assets and Liabilities, Commercial and Mutual Savings Banks, December 31, 1969, Federal Deposit Insurance Corporation, August, 1970.

generally be restricted to an issue whose size would limit its marketablility either in a public offering or a private placement.[28]

In summary it would appear that debt as a source of capital funds may have some very definite advantages and can possibly contribute to a reduction in the cost of intermediation. The characteristics of multi-office banking are such that the use of debt capital is facilitated. As a result the debt-to-capital ratios of multi-office states tend to be higher than those of the uni-office states. The fact that Florida banks have made relatively little use of this advantageous source of capital is, at least in part, a product of the uni-office constraint. If multi-office banking were permitted in Florida, it is probable that banks within the state would be more willing and able to use this valuable source of capital funds.

Efficiency

Bain, in discussing the question of efficiency in industrial organization, states:

> It would seem generally desirable that all the output of an industry be supplied by firms of the most efficient scale, and that none should be supplied by firms of inefficiently large or small scale. . . . Furthermore, it is desirable that the firms of the industry should have an aggregate plant capacity adjusted to market demand in such a way that there is an absence of chronic wasteful capacity.

Certainly the cost of intermediation is directly affected by this question of efficiency. Technical inefficiency, within the framework suggested by Bain, would lead to suboptimization due to the diseconomies of limited size or under-utilization of capacity.

The optimal regulatory set for Florida would be the one which permitted or led to the optimal bank size and minimized excess capacity.

Economies of Scale

Public policy questions relating to bank structure have inspired a number of bank cost studies over the last few years.[30] These works have taken several different approaches but their findings have generally been consistent. All appear to agree that:

(1) The banking industry is characterized by economies of scale over a rather wide range of operations.

(2) A large part of potential savings due to size may be realized by relatively small banks, i.e., $5,000 000 to $15,000,000 in deposits.

(3) Branch banks are more costly to operate than unit banks of comparable size.

One thing that should be noted in accepting these conclusions as valid statements of the scale characteristics of banking is that they focus on economies of scale for comparable-sized units. What must also be considered is the scale question at the "normal" size associated with the different regulations.

Most studies have agreed that a branch bank will have a less efficient scale of operations than a unit bank of the same size. However, the regulatory set/efficiency question is not settled by this finding. If multi-office banking facilitates bank growth, then the question should not be one of equal size comparison but rather comparison of the economies of scale associated with the average size bank found under alternative regulations.

It can be seen by examining Table 35 that average bank size as well as median bank size increases rapidly when the uni-office constraint is lifted. The average bank under unconstrained multi-office banking is six times as large as the average bank under the uni-office set. The question of efficiency under the alternative structures appears to be closer to the question of which is more efficient, one branch bank with five branches or six unit banks, rather than the relative efficiency of comparable sized facilities.

Within the framework of this question, the research that has been done indicates that the multi-office organization is able to achieve a higher level of efficiency.[31] While the uni-office arrangement enjoys a scale advantage with a given size, the size differential which develops under multi-office banking tends to more than offset this advantage and produce a lower per unit cost. It can be seen in Figure 2 that at any given firm size (X) the technical efficiency of the uni-office organization is greater $(OB < OA)$. However, if the average firm size under multi-office banking is six times as large $(Y = 6X)$, then the empirical evidence suggests that the cost curves are such that the average cost under multi-office banking is less than that under the uni-office constraint $(OC < OB)$.

Florida banking is typical, in this respect, of uni-office banking. The average bank size of $29,597,000 is only one-fourth as large as the average multi-office bank. The uneven population density of Florida has led to a number of small unit banks. If

TABLE 35

AVERAGE AND MEDIAN SIZE BANKS BY STATES
DECEMBER 31, 1970

Unit Banking States

State	Average Bank Size	Median Bank Size
Arkansas	$12,672	2
Colorado	20,671	2
Florida	29,597	3
Illinois	34,800	2
Iowa	10,519	2
Kansas	8,749	1
Minnesota	13,521	2
Missouri	19.130	2
Montana	12,446	2
Nebraska	8,659	1
North Dakota	8,927	2
Oklahoma	13,247	2
Texas	24,053	2
West Virginia	14 890	2
Wyoming	11,917	2
Average	16,253	1.93

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* The classification scheme for median bank size is as follows:

	Total Resources
#1	$2,500,000 to $5,000,000
#2	5,000,000 to 15,000,000
#3	15,000,000 to 25,000,000
#4	25,000,000 to 50,000,000
#5	50,000,000 and over.

TABLE 35 (Continued)

Limited Branching States

State	Average Bank Size	Median Bank Size
Alabama	$18,910	2
Georgia	19,274	2
Indiana	28,611	2
Kentucky	16,314	2
Louisiana	29,191	2
Massachusetts	79,887	4
Michigan	68,740	2
Mississippi	18,016	2
New Hampshire	13,342	2
New Jersey	69,375	4
New Mexico	22,985	2
New York	369,266	4
Ohio	46,242	2
Pennsylvania	65,253	3
Tennessee	25,473	2
Wisconsin	16,644	2
Average	56,720	2.43

TABLE 35 (Continued)

Statewide Branching States

State	Average Bank Size	Median Bank Size
Alaska	$53,275	4
Arizona	293,470	5
California	363,501	3
Connecticut	92,001	4
Delaware	72,645	2
Hawaii	242,355	5
Idaho	53,031	2
Maine	32,580	3
Maryland	44,566	2
Nevada	141,910	5
North Carolina	70,629	2
Oregon	89,324	2
Rhode Island	156,886	5
South Carolina	23,695	2
South Dakota	9,882	2
Utah	37,272	2
Vermont	20,483	2
Virginia	35,824	2
Washington	66,385	2
Average	99,985	2.94
U.S.	39,273	2.0

Source: Bank Operating Statistics, 1970, FDIC; Rand McNally Bankers' Directory, 1971.

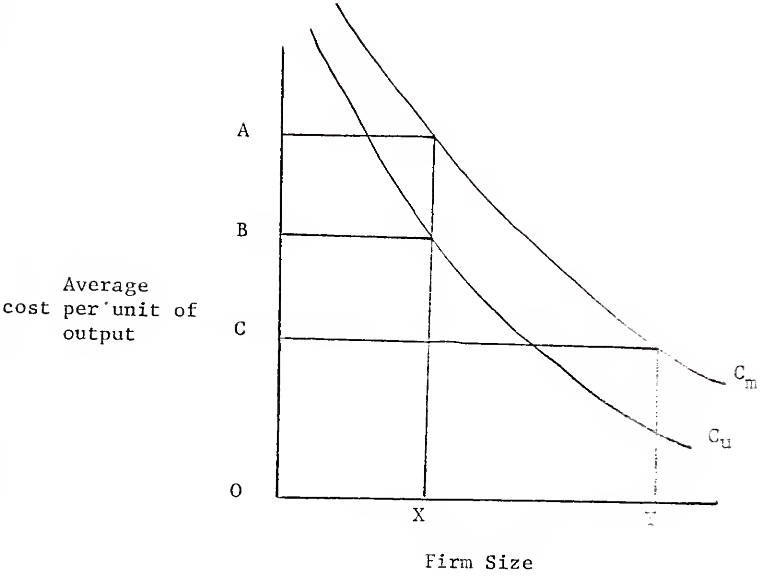

FIGURE 2: The relationship of average cost per unit of output to bank size.

multi-office banking were permitted, the cost data indicate that a lower cost per unit of output could be achieved while maintaining the same geographic coverage.

Of course, the increased bank size present under multi-office banking is not necessarily an unmixed blessing. If this size is attained at the expense of market participants in any given market, the decrease in the cost of intermediation from increased productive efficiency may be offset by an increase in cost from a reduction in allocative neutrality. While these variables are being considered separately the optimal set will be the one which allows minimization of total costs (see Figure 3).

In summary it appears that the cost of intermediation in Florida would be reduced under multi-office banking due to scale economies which can more easily be achieved under this regulatory environment. Returns to scale are a part of the banking industry and yet the growth necessary to achieve these returns is difficult to attain under unit banking. The evident size differential indicates that the normal trade-off is several firms under uni-office banking for one firm and several facilities under multi-office banking. Without consideration of allocative costs, this kind of trade-off has led to a lowering of operating costs under multi-office banking and contributes to the cost of intermediation minimization objective.

Capacity Utilization

Even if a firm is of optimum size, its average costs may be higher than necessary if it does not operate at full capacity. While defining excess capacity in banking presents some difficulties, it

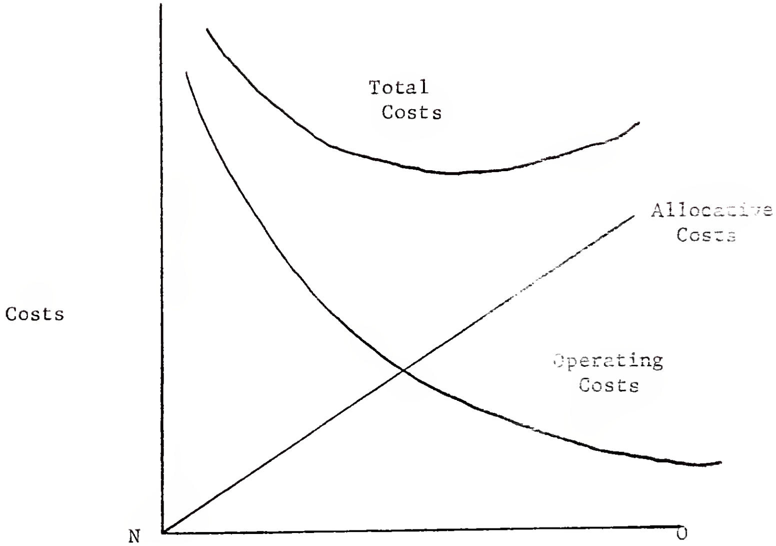

FIGURE 3: Hypothetical trade-off between allocative and operative costs as the number of firms is reduced, number of facilities constant.

is possible that a concept of excess liquidity may be used in an analogous fashion. Of course, all banks require some liquidity and the needs of each bank may differ in accordance with individual bank characteristics. However, it is conceivable that some banks might hold excessive amounts of highly liquid assets. Such excess liquidity might reflect a discriminatory type of behavior designed to maximize net income in an imperfect market.[32] Or it may reflect the fact that differing forms of bank organizations require different levels of liquidity. In either case, liquidity in excess of the minimum required in a perfect market with the optimal structure form is indicative of unused capacity and adds to the cost of intermediation.[33] Within the constraint of continuing operation, the cost of intermediation will approach minimization as the bank is able to reduce the amount of assets maintained in liquid or near-liquid form. All other things being equal, the optimal structure for Florida will be that in which excess liquidity or unused capacity is minimized.

An examination of Table 36 would indicate that using loans to total assets as a measure of capacity utilization, the multi-office alternative in both forms is associated with a higher figure. The spread between the uni-office states and the unlimited multi-office states (6 percent) is particularly wide and suggests that in spite of the several variables which might affect this figure the structural difference does play a part. These results apparently hold true regardless of the market level examined and as the Federal Reserve Bank of Chicago noted, "This finding has been reported with unvarying regularity."[34]

TABLE 36

SELECTED BALANCE SHEET ITEMS AS A PERCENT OF
TOTAL ASSETS OF COMMERCIAL BANKS,
DECEMBER 31, 1970

Unit Banking States

State	Cash and Due From Banks	Investments				Loans and Discounts					
		U.S. Gov't. Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Other	Total
Arkansas	16.7	20.9	13.2	0.1	34.2	11.8	5.5	14.4	10.6	4.9	47.4
Colorado	14.8	17.8	9.6	0.2	27.6	13.0	12.0	9.0	15.7	4.8	54.7
Florida	11.0	22.9	13.9	0.1	36.9	10.9	1.0	15.7	15.8	5.7	49.1
Illinois	11.0	29.0	10.0	0.8	39.8	8.3	8.0	13.6	12.3	4.5	46.8
Iowa	11.5	25.4	9.0	0.5	34.9	6.8	22.8	10.9	8.1	3.3	52.1
Kansas	12.2	25.9	10.1	0.2	36.2	7.1	20.2	7.3	9.6	5.6	50.1
Minnesota	9.0	31.8	6.8	0.2	38.8	7.5	13.6	15.7	11.3	2.2	50.5
Missouri	13.0	25.7	10.6	0.2	36.5	6.9	8.9	16.1	11.5	5.0	48.6
Montana	11.0	27.2	10.8	0.3	38.3	9.4	15.0	10.1	11.3	2.2	48.2

TABLE 36 (Continued)

Unit Banking States

State	Cash and Due From Banks	Investments				Loans and Discounts					
		U.S. Gov't. Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Others	Total
Nebraska	11.8	26.9	6.7	0.3	33.9	6.8	29.3	5.0	7.2	4.2	52.8
North Dakota	7.7	32.3	10.5	0.5	43.3	6.7	19.4	12.4	7.7	1.3	47.7
Oklahoma	15.6	21.7	9.8	0.3	31.8	9.5	13.0	8.1	13.2	6.5	50.6
Texas	17.6	17.1	10.8	0.7	28.6	15.3	7.4	6.5	15.4	6.3	51.1
West Virginia	11.3	23.9	11.8	0.5	36.2	5.3	1.0	17.1	17.9	8.3	49.8
Wyoming	15.7	21.9	8.5	0.2	30.6	11.6	14.5	8.9	12.2	3.6	51.0
Average	12.7	24.7	10.1	0.3	35.1	9.1	12.8	11.4	12.0	4.6	50.0

TABLE 36(Continued)

Limited Branching State

State	Investments					Loans and Discounts					
	Cash and Due From Banks	U.S. Gov't. Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Others	Total
Alabama	12.0	23.7	14.2	0.3	38.2	9.4	3.0	14.0	14.7	6.1	47.4
Georgia	12.9	19.2	9.7	0.6	29.5	8.6	3.6	17.2	17.6	7.5	54.6
Indiana	10.9	26.3	9.2	1.0	36.5	6.4	6.0	18.1	13.5	6.5	50.6
Kentucky	14.2	27.9	7.7	0.2	35.8	5.8	5.9	18.3	13.2	4.6	48.1
Louisiana	16.0	20.5	12.9	0.5	33.9	11.1	2.2	15.8	13.1	5.5	47.8
Massachusetts	14.5	13.3	10.0	0.8	24.1	20.2	0.3	11.9	17.9	8.0	58.6
Michigan	9.0	18.5	13.3	0.5	32.3	8.4	3.4	24.7	14.7	4.8	56.2
Mississippi	15.4	18.9	14.2	0.2	33.3	12.1	4.9	14.5	12.1	5.0	48.8
New Hampshire	13.4	13.0	6.6	1.8	21.4	12.2	0.7	20.6	20.2	8.7	62.5
New Jersey	11.1	15.1	14.5	1.4	31.0	11.8	0.4	19.8	13.9	8.6	54.6

TABLE 36 (Continued).

Limited Branching State

State	Investments					Loans and Discounts					
	Cash and Due From Banks	U.S. Gov't. Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Others	Total
New Mexico	15.5	17.2	11.6	.0.3	29.1	16.5	7.6	7.9	16.3	4.4	52.9
New York	11.3	15.7	14.3	0.9	30.9	12.5	2.4	17.4	16.2	6.4	55.2
Ohio	10.4	21.5	11.8	0.5	33.8	7.2	3.6	20.6	17.4	4.6	53.6
Pennsylvania	9.1	18.0	11.7	1.4	31.1	8.8	2.0	24.5	15.7	6.6	57.8
Tennessee	13.1	22.0	11.3	0.4	33.7	8.7	3.9	17.2	15.7	5.0	50.7
Wisconsin	9.5	25.2	9.5	1.1	35.8	8.9	6.1	23.5	9.4	4.2	52.3
Average	12.4	19.7	11.4	0.7	31.8	10.5	3.5	17.9	15.1	6.0	53.4

TABLE 36 (Continued)

State-wide Branching States

State	Investments					Loans and Discounts					
	Cash and Due From Banks	U.S. Gov't Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Others	Total
Alaska	11.3	24.0	11.4	0.2	35.6	16.0	0.2	18.0	9.9	5.3	49.5
Arizona	10.3	13.8	11.1	0.3	25.2	17.5	3.8	13.5	21.1	4.1	60.1
California	11.3	16.7	8.7	0.7	26.1	17.3	1.6	15.3	17.7	6.0	58.1
Connecticut	13.5	11.6	10.8	1.0	23.4	14.6	0.2	19.7	19.2	6.0	59.9
Delaware	11.6	24.0	6.2	1.6	31.8	8.6	1.4	25.2	11.4	7.8	54.5
Hawaii	11.4	11.6	13.1	0.4	25.1	18.2	0.3	22.0	14.4	3.3	58.4
Idaho	14.4	15.8	8.1	0.1	24.0	11.9	20.5	7.2	13.3	6.2	59.3
Maine	10.6	10.8	12.7	1.2	24.7	13.5	1.4	22.6	17.7	5.9	61.4
Maryland	10.7	19.0	7.3	0.8	27.1	8.2	2.1	27.5	14.9	7.0	59.9
Nevada	11.8	15.2	16.0	0.0	31.2	15.6	1.1	16.2	15.6	5.0	53.5
North Carolina	12.4	23.2	14.1	0.4	37.7	10.3	2.9	11.1	17.2	5.2	46.8

TABLE 36 (Continued)

State-wide Branching States

State	Cash and Due From Banks	Investments				Loans and Discounts					
		U.S. Gov't. Securities	State and Local Securities	Other Securities	Total	Commercial	Agric.	Real Estate	Indiv.	Others	Total
Oregon	10.4	20.3	12.8	0.5	33.6	14.2	3.8	14.7	12.2	7.2	52.2
Rhode Island	13.1	16.8	7.6	1.2	25.6	24.7	0.0	11.6	16.5	6.8	59.6
South Carolina	13.7	21.0	15.6	0.4	37.0	8.8	2.4	12.4	17.1	6.0	46.9
South Dakota	10.3	32.6	7.1	0.1	39.8	5.2	27.3	7.9	6.2	1.5	48.4
Utah	12.2	17.3	9.9	0.2	27.4	11.7	6.6	15.7	16.9	6.5	57.6
Vermont	10.4	13.5	9.5	1.3	24.3	9.7	2.8	30.2	14.2	6.4	63.5
Virginia	11.1	18.9	11.4	0.2	30.5	9.5	2.2	19.6	18.9	5.2	55.7
Washington	12.0	19.5	9.0	1.2	29.7	15.2	4.0	15.5	11.9	7.9	54.7
Average	11.7	18.2	10.6	0.6	29.4	13.1	4.4	17.2	15.1	5.7	55.9

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, July, 1971

The relatively high capacity utilization associated with multi-office banking has a justifiable basis in the structural format of such banks. The greater geographical and customer-type diversification possible under the multi-bank mechanism contributes to a reduction in loan risk. This permits the branch bank to safely economize on reserves and commit more input to the loan market.

Further, multi-office banking increases the mobility of funds and thus contributes to a reduction in that portion of capacity available, but unused. Slack demand for funds in one area can be compensated by shifting resources to other areas where the demand is greater. Guttentag and Herman report that a recent study of banking in New York State showed that nine of twelve branch banks outside New York City had out-of-town offices with loan-deposit ratios exceeding 80 percent and four had offices with ratios exceeding 100 percent.[35] The unit bank, especially small banks, may be forced to hold excess reserves if the demand for funds is slack in their local area.

It should be noted that there is some level of optimal liquidity and a bank whose loan-to-asset ratio goes beyond this point is in a suboptimal state. The minimization of excess liquidity will reduce the cost of intermediation, not the minimization of liquidity. In fact, a bank in an illiquid state adds to the cost of intermediation, by the threat to depositor safety and a reduction in productive efficiency. What the multi-office regulatory set does in this area is to increase the capacity available due to the nature of multi-office banking as well as facilitating an increase in capacity utilization.

In addition, it was noted in a previous chapter (Chapter IV) that multi-office banking can lead to lower barriers to entry which in turn could lead to an increase in the loan-to-asset ratio. This would follow from the fact that the increased ease of entry will produce more elastic demand curves for the products of an individual bank. This in turn would tend to reduce any possible profit advantage that could accrue from limiting loans to local customers and diverting resources to more liquid assets.

A look at Florida data would indicate that it is a fairly typical unit banking state. The loans and discounts to total assets figure of 49.1 percent is among the lowest in the nation (ranks fortieth). Although this figure represents a radical increase for Florida banks from a figure of 22.3 percent in 1950, the current figure is still substantially below those found in multi-office states.

Within the state, the most rapid rate of growth in this figure over the last ten years has occurred in the Brevard county area while the greatest absolute growth in bank loans occurred in the Dade county area. An examination of the largest banks in the state (Table 37) reveals a fairly wide divergence in asset composition. The funds allotted to cash and U.S. Government Securities range from 24.3 percent of total assets (First National Bank, St. Petersburg) to 59.1 percent (Florida National Bank and Trust Co. of Miami). Resources allocated to loans and discounts likewise cover a wide range running from a low of 21.1 percent of total assets (Florida National Bank and Trust Co., Miami) to a high of 49.6

TABLE 37

CERTAIN ASSETS AND TOTAL CAPITAL ACCOUNT AS PERCENTAGE OF TOTAL ASSETS, FLORIDA BANKS WITH DEPOSITS OVER $115,000,000, DECEMBER 31, 1970

Bank	Cash and Balances Due From Banks	U.S. Gov't. Securities	Other Securities*	Loans and Discounts	Other Assets	Total Capital Accounts
First National Bank Miami	27.5	7.5	14.6	40.6	9.2	5.8
Atlantic National Bank Jacksonville	28.6	3.3	10.4	40.6	17.1	7.9
Florida National Bank Jacksonville	33.2	11.8	9.2	34.3	11.5	9.4
First National Bank Tampa	36.7	6.1	11.6	41.8	3.8	5.4
Exchange National Bank Tampa	33.3	7.2	9.1	45.0	5.4	5.7
First National Bank Orlando	31.0	12.4	9.5	38.3	8.8	6.0
Broward National Bank Ft. Lauderdale	15.9	33.3	13.4	30.1	7.3	7.5

TABLE 37 (Continued)

Bank	Cash and Balances Due From Banks	U.S. Gov't Securities	Other Securities*	Loans and Discounts	Other Assets	Total Capital Accounts
Miami Beach First National Miami	15.1	16.8	27.1	36.3	4.7	6.6
Barnett National Bank Jacksonville	24.9	9.1	11.6	49.3	5.1	7.3
City National Bank Miami	26.3	14.2	14.2	43.0	2.3	5.9
First National Bank St. Petersburg	15.7	8.6	22.6	49.6	3.5	7.2
First National Bank Ft. Lauderdale	25.7	12.0	12.2	32.7	17.4	4.5
Florida National Bank & Trust Company Miami	49.5	9.6	15.2	21.1	4.6	8.8
Union Trust Bank St. Petersburg	19.9	27.2	11.1	39.6	2.2	5.8
Marine Bank & Trust Company Tampa	33.5	7.6	13.4	35.8	8.7	7.6

*Includes securities of other U.S. Government agencies as well as state and local securities.

Source: Computed from Rand McNally Bankers' Directory, 1971.

percent (First National Bank, St. Petersburg). A random sample of the state's smaller banks revealed comparable figures, although U.S. Securities tended to play a larger role in the total asset picture and cash, a smaller role.[36]

In summary, the evidence would indicate that Florida's relatively low capacity utilization is, to a certain extent, a result of the uni-office constraint. Minimization of the cost of intermediation is consistent with maximizing usable capacity as well as maximum capacity utilization. It would appear that a regulatory set which permitted multi-office banking in Florida would increase usable capacity thus permitting higher capacity utilization and lowering the cost of intermediation.

Summary

The bank's input market is really a multitude of markets in which the institution acquires the factors of production necessary to present a final product in the output market. It is evident that bank structure has little or no effect on the price or availability of those inputs having general utility. However, the raw material input of the banks, funds, is found in markets where the commercial bank is a major force and it is here that alternative structural sets may affect the cost of intermediation.

Performance in the input market which will contribute to the objective function will be that which maximizes the price paid the fund offerees while presenting those services and/or facilities required to accommodate the intermediation needs of the market. The cost of intermediation for the Florida citizenry will be minimized by the regulatory set which permits or causes such optimal price and service performance in this market.

An extensive set of evidence was examined in an attempt to associate structural alternatives with the performance in question. With very few exceptions, the indications were that the cost of intermediation in Florida as affected by the input market could be minimized by removing the uni-office constraint.

The multi-dimensional compensation for the highly liquid funds of this market tends to be higher under multi-office banking and there is no apparent reason why this benefit would not be realized in Florida with the appropriate regulatory change. In addition, it would appear from the data, that within the limits defined by regulatory maximums and Florida's economic environment, multi-office banking could be expected to increase the rates paid on the less liquid funds relative to current or possible rates under the uni-office set.

An examination of the sources of funds for commercial banks led to the conclusion that to the extent that the fund input composition affects the cost of intermediation the multi-office set permits the more optimal combination. The greater activity of multi-office banks in the store of value fund market and their willingness or ability to use capital notes and debentures as a source of capital funds led to the conclusion that the cost of intermediation in Florida banking could be minimized here by eliminating the uni-office constraint.

Finally, in terms of efficiency, as defined by economies of scale and capacity utilization. the available evidence indicated that, under multi-office banking, commercial banks can obtain the benefits of returns to scale and maximum utilization without the service and/or safety trade-offs necessary under uni-office banking. Therefore, the lifting of the uni-office constraint in Florida would contribute to the objective of minimizing the cost of intermediation through the benefits of economies of scale and minimum unused capacity.

NOTES TO CHAPTER V

1. F.W. Bell and N.B. Murphy, *Costs in Commercial Banking: A Quantative Analysis of Bank Behavior and its Relation to Bank Regulation*, Research Report #41, Federal Reserve Bank of Boston, April, 1968, pp. 183-199.

2. See B. Shull and P.M. Horvitz, "Branch Banking and the Structure of Competition," *The National Banking Review*, Vol. I, No. 3 (March, 1964), pp. 301-342; E. Kohn, *Branch Banking, Bank Mergers and the Public Interest* (Albany, N.Y.: New York State Banking Department), January, 1964; D.C. Motter and D. Carson, "Bank Entry and the Public Interest: A Case Study," *The National Banking Review*, Vol.I, No. 4 (June, 1964), pp. 469-512.

3. These include one unit banking state, Colorado, and five unlimited branching states - California, Oregon, Utah, Washington, and Alaska.

4. O.S. Pugh and O.G. Woods,"Bank Service Charges in the South," *The National Banking Review*, Vol.IV, No.2 (December, 1966), pp. 175-181. Their figures indicated the Tampa bank surveyed had the highest charges followed by Richmond , Va., Miami and then Jacksonville, out of the twenty Southern cities included.

5. S.J. Weiss, "Commercial Bank Price Competition: The Case of 'Free' Checking Accounts," *New England Economic Review*, Federal Reserve Bank of Boston, September/October. 1969.

6. Bell and Murphy, p. 184.

7. G.G. Kaufman, *Customers View Bank Markets and Services. A Survey of Elkhart, Indiana*, Federal Reserve Bank of Chicago, 1967.

8. "Changes in Time and Savings Deposits, April-July, 1970," *Federal Reserve Bulletin*, November, 1970, pp. 803-813.

9. "Changes in Time and Savings Deposits, December,1965-May,1966," *Federal Reserve Bulletin*, August, 1966 pp. 1102-1136.

10. Several empirical studies have been undertaken to establish the size/structure relationship. One of the more recent was done by D.P. Jacobs as reported in the *Journal of Finance* of May, 1965. With a set of linear models, Jacobs found, using a regression technique that the mean total asset size of banks will vary inversely with the degree of branching restrictions. See D.P. Jacobs, "The Interaction Effects of Restrictions on Branching and Other Bank Regulations," *Journal of Finance*, Vol.XX, No. 2 (May, 1965), pp. 332-349.

11. *Branch Banking, Bank Mergers and the Public Interest*, p. 23.

12. Shull and Horvitz, pp. 301-342.

13. Compensation here includes service as well as direct monetary returns.

14. The "other things being equal" caveat is particularly broad in this instance. It assumes optimality in other aspects of bank performance in the input market such as rate structure and productive efficiency.

15. For empirical evidence and further discussion of this point see B.E. Anderson, "An Investigation into the Effects of Banking Structure on Aspects of Banking Behavior," Ph.D. dissertation, Ohio State University, 1964.

16. It is not necessarily true that the certificate of deposit (CD) is a non-local source of funds. However, the CD is often sold in increments whose size expands the input market beyond local boundaries whereas the savings account is perfectly divisible and appeals primarily to the local market. In fact, the greater use of CDs by the unit bank is often motivated by a need to attract non-local funds.

17. The effects of changes in the market rates of interest on this savings ratio have been ignored. It is undoubtedly true that as market rates increase above the maximum rates the financial institutions are permitted to pay, there will be an outflow from the local institutions. However, this is true regardless of this structural situation in banking. What this ratio should determine is whether the structural regulations affect the community's propensity to save in local financial institutions, given the market rates of interest.

18. I. Schweiger and J. McGee, "Chicago Banking," *The Journal of Business*, Vol. XXXIV, No. 3 (July, 1961), pp. 203-366.

19. *Bank Operating Statistics, 1970*, Federal Deposit Insurance Corporation, July, 1971.

20. Schweiger and McGee, pp. 240-255.

21. P.M. Horvitz and B. Shull, "The Impact of Branch Banking on Bank Performance," *The National Banking Review*, Vol. II, No. 2 (December, 1964), pp. 143-189; G.G. Kaufman, "Bank Market Structure and Performance: The Evidence from Iowa," *The Southern Economic Journal*, Vol. XXXII, No. 4 (April, 1966), pp. 429-439.

22. Under an amendment to the Emergency Banking Act of 1933 the Reconstruction Finance Corporation was permitted to purchase subordinated bank capital notes and debentures as a means of bolstering the impaired capital position of the banking system .

23. P.S. Nadler, "Raising New Bank Capital: Debentures vs. Stock," *Banking*, Vol. LVIII, No. 3 (September, 1965), p. 40.

24. For a more complete discussion of the use of senior securities as a source of bank capital see: C.A. Matthews, "The Place of Long-Term Debt in Commercial Bank Capital Structure," *Business and Economic Dimensions*, Vol. I, No. 9-12 (December, 1965), p. 1-6 and p. 19; C.M. Williams "Senior Securities-- Boon for Banks," *Harvard Business Review*, Vol. IV, No. 4 (July-August. 1963), p. 82-94.

25. Paul F. Jessup,"Banks Debt Capital: Urchin of Adversity to Child of Prosperity,"*The Bankers Magazine*, Vol. 148, No. 3 (Summer, 1965), p. 28.

26. We continue our assumed size/structure relationship equating multi-office banking with the larger firms and uni-office banking with the smaller firms. More than 96 percent of the banks among the hundred largest which are using debentures are multi-office banks.

27. National banks are limited to a total long-term debt not exceeding 100 percent of capital stock plus 50 percent of surplus. States that permit debentures for state-chartered banks generally have similar limits.

28. P.S. Nadler, "Can Debentures Serve the Smaller Bank?" *Banking*, Vol. LVII,No. 5 (November, 1964), pp. 43-45.

29. J.S. Bain, *Industrial Organization* (New York: John Wiley and Sons, Inc., 1959), p. 16.

30. For example see: D.A. Alhadeff, *Monopoly and Competition in Banking* (Los Angeles: University of California Press, 1954); G.J. Benston, "Branch Banking and Economies of Scale," *The Journal of Finance*, Vol. XX, No. 2 (May, 1965), pp. 312-331; L.E. Gramley, A *Study of ScaleEconomies in Banking*, Federal Reserve Bank of Kansas City, November, 1962; F.W. Bell and N.B. Murphy, pp. 183-199.

31. See S.I. Greenbaum, "Banking Structure and Costs: A Statistical Study of the Cost-Output Relationship in Commercial Banking," Ph.D. dissertation, The Johns Hopkins University, 1964; Schweiger and McGee.

32. See B. Shull, "Commercial Banks as Multiple-Product Price Discriminating Firms," Banking and Monetary Studies (Homewood, Ill: R.D. Irwin, Inc., 1963), p. 365.

33. The term "liquidity" is being used in a special sense here. The assumption is that all funds not placed in loans or discounts are being held in a more liquid and less profitable state. Certainly, this is true of the primary and secondary reserves. It also generally appears to be true of the balance of the investment account which often receives funds on a residual basis as loan demand varies. The concept being used is similar to that utilized by Alhadeff when he used loans to assets as a measure of the "load factor" or index of the efficiency of banks in utilizing resources in a directly productive manner. See Alhadeff, p. 57.

34. R.L. Mote, "Competition in Banking," *Business Conditions*, Federal Reserve Bank of Chicago, February, 1967, p. 11. Other studies which have concurred in this finding include Shull and Horvitz; Alhadeff; *Branch Banking*, New York State Banking Dept., 1964; and Schweiger and McGee.

35. J. Guttentag and E. Herman, "Banking Structure and Performance." *The Bulletin*, No. 41/43 (February, 1967) New York University, p. 129.

36. Fifty state banks with total assets of less than $20,000,000 were examined and the average composition was: cash and due from banks, 13 percent; U.S. Securities, 25 percent; loans and discounts, 41 percent.

CHAPTER VI

FLORIDA BANKING: OUTPUT MARKET

In the intermediation process, the primary output of the commercial bank is funds with a variety of characteristics. The most general type of grouping of these funds according to characteristics would lead to two categories, loans or investments. The present investigation will focus on the relationship of bank structure to bank market performance in loan output and how this relationship might affect the cost of intermediation in the state of Florida.

The analysis will be restricted to loan output, not because investments are insignificant, but because it appears that bank structure in Florida would have little, if any, effect on the relevant investment market. Bank security purchases are limited in nature by various legal constraints.[1] The conservative nature of existing regulations virtually assure that bank funds made available through investment will be restricted to markets that are national in scope and relatively competitive in nature.[2]

In addition, bank participation in the investment market is somewhat passive in nature. Convention, experience and/or legal constraints determine the amount of potential capacity that will be allotted to loans. The unused capacity is maintained in cash or on deposit with another bank or placed in the investment market to serve as a secondary reserve or liquidity hedge. Any security investments beyond these requirements are normally treated by the bank as a residual to be undertaken only if and when liquidity and customer loans have been fully satisfied. For these several reasons this study of bank structure-output market performance will be restricted to the loan market, where bank structure may make a difference.

The multitude of factors involved in bank output market performance requires a somewhat eclectic approach to a study of the structure-performance relationship. The present investigation will be interested in establishing the relationship of bank structure and the cost of intermediation to (1) output prices, (2) output composition, to include the range of services offered, and (3) earnings. In addition, various collateral issues which may affect the cost of intermediation, including the effects of technological change, will be enjoined so as to establish the broadest possible base for the resulting conclusions.

From the point of view of the objective function, the optimal bank structure will be characterized by the lowest prices in the output market. In addition, the regulatory set which encourages or facilitates an output set that is responsive to the several different demands of the general public will contribute to a minimization of the cost of intermediation. Of course, while minimizing cost and maximizing service, the regulatory set must allow the bank to earn a return sufficient to attract the necessary capital. However, the earnings figure is a type of summary and a particularly high rate may imply that the intermediation process has had an excessive social cost. Thus the earnings criteria consistent with the objective function will be "just enough but not too much."

Output Composition

One of the difficulties in measuring performance in the output market is that the loan output of commercial banks tends to have a high degree of heterogeneity. Not only do individual loans vary, depending on the specific negotiations, but also the loan portfolio maintained by any given bank may vary depending on the nature of the bank, local economic conditions and, perhaps, bank structure.

In fact, the composition variable makes the average effective interest rate virtually a meaningless economic variable. Differences in the average rate may reflect loan composition as much or more than demand and supply conditions for a certain product.

To get a full oversight of the output market it is necessary to identify any composition/structural relationship. From a compositional point of view, the cost of intermediation is minimized when the loan output offered meets the demands of the market. While these demands may differ from state to state, the structure which appears to be able to meet the demands of the market consistently is the one to be preferred for Florida.

It can be seen in Table 36 (page 176) that there is a discernible difference in the loan portfolios generally found in uni-office states and those associated with some form of multi-office banking. Under the uni-office constraint, the wholesale loans (commercial and agriculture) are a larger part of the loan portfolio than under the multi-office set (53.3% vs. 34.8%). On the other hand, the retail loan (real estate and individual) is much more significant in multi-office bank portfolios (65.2% vs. 46.7%).

The figures for Florida show a greater than average emphasis on retail loans for a unit banking state as these represent some 63 percent of the total loans outstanding. Florida banks are particularly heavy in individual loans (35%) while their commitment to real estate (28%) is surprisingly small, given the Florida economic environment.

Other studies[3] of loan composition at various market levels have generally agreed that there is a composition/structure relationship and as a result banks under a uni-office constraint tend to have relatively more wholesale type loans while banks under the multi-office allowance tend to have relatively more retail type loans.

These differences in composition are not fortuitous, but are related to the economic characteristics of the markets within which the bank operates and the structural characteristics of the alternative types of organization. The multi-office alternative facilitates penetration of multiple local markets. The branch bank can expand and obtain sufficient resources to compete in the larger markets without limiting or decreasing the fund flow into "retail loans." On the other hand, the single location of the unit bank means that growth can generally be obtained only through upward market movement. Saturation of the relevant local market means that continued expansion must come from emphasis on the industrial and corporate business of the larger markets (Table 38).[4] In addition, the higher time-to-total deposit ratios associated with multi-office banking allow for a larger commitment to the real estate sector.

In general, it would appear that the different loan-mix associated with multi-office banking represents improved performance

TABLE 38

LOAN COMPOSITION FOR VARIOUS SIZED BANKS, FLORIDA AND NORTH CAROLINA DECEMBER 31, 1970

	Bank Size (Total Deposits in Millions)		
	10-25	25-100	over 100
Percentage of Total Assets:			
Florida			
Wholesale	11.6	14.0	15.4
Retail	28.3	28.1	19.2
North Carolina			
Wholesale	13.8	14.5	19.9
Retail	26.2	28.8	30.1
Percentage of Total Loans:*			
Florida			
Wholesale	25.1	28.6	36.4
Retail	61.3	57.4	45.3
North Carolina			
Wholesale	30.0	29.4	31.5
Retail	57.0	58.6	59.6

*Including unclassified loans designated as "other loans."

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, July, 1971.

in the output market. The increased availability of funds for consumer borrowing may contribute to a more efficient allocation of resources. The unit bank, faced with branching competition, cannot afford to ignore retail loan demands, whereas in a uni-office state, it may be a passive competitor, willing to accede this type of loan to non-bank financial institutions. On the other hand, the multi-office bank, because of its typically higher loan-to-asset ratio can invest a greater proportion of its funds in retail loans and still maintain the same absolute dollar level of business loans as a comparable unit bank.

One additional point that should be made is relative to the oft-heard argument that multi-office banking tends to neglect the local demand for funds and results in a net outflow as local funds are gathered for lending in regional and/or national markets.

There are two aspects of the multi-office bank's asset portfolio which tend to negate this point. First, it has been established that uni-office banks generally have a lower loan ratio and a higher investment figure. As of December 31, 1970, over 68 percent of unit bank investments were in United States Government obligations, while less than 32 percent were in securities issued by states and political subdivisions. It is evident that only a very small portion of bank resources are made available to local needs in the form of securities or investments. The loans of most banks return funds to the local area, whereas investments are generally distributed in the regional or national market. It would appear that the nature of multi-office banking is such that it may obtain appropriate asset diversification without resorting to investments to the extent of the uni-office bank and therefore is able to offer more of its inputs for local consumption.

A second point to note is that within the loan portfolio itself, the multi-office bank tends to be more locally oriented. Retail loans which are made to individuals for consumption purposes are generally local in origin. Few individuals have the ability, time, or inclination to shop a regional or national market for consumption-purpose loans. On the other hand the wholesale loan, which is sought for productive purposes, may easily cross the geographical markets. A firm seeking a substantial loan has the ability and motive to shop all market levels to which it has entry. The relative emphasis of multi-office banking on retail loans would again suggest that the local prejudice sometimes attributed to the multi-office set may, in fact, be a local preference.

In summary, there is a relationship between the regulatory set and output composition. While the linkage between this relationship and the cost of intermediation is not a rigid one, it would appear that there is a sufficient connection to suggest the following. The higher loans to asset ratio as well as the higher retail loans to total loans figure found under multi-office banking indicates that banks under this regulatory set may be better able to respond to these demands for output in the market where commercial banking is a significant factor. This response through asset and/or loan composition may therefore contribute to a reduction in the cost of intermediation. Of course, the increased allocation of funds to the loan portfolio is matched by a decrease in the relative amount of funds placed in investments, particularly in U.S. Government securities. However, the market for such investments is so extensive that the shift in bank funds has little or no impact, whereas the place of the bank in the loan market is more significant and additional bank output here will have a positive impact on the cost of intermediation. Multi-office banking in Florida would lead to some increase in retail loans (especially real estate) as well as an increase in total loans as a percent of assets. It is unlikely that any of the current Florida demanders would experience a decrease in funds available whereas some sectors would experience an increase thus contributing to a decline in the cost of intermediation.

Bank Rates

One of the frustrations that must be borne in analyzing the bank output market is the wide diversity in the nature and characteristics of the funds found in the loan market. It was this heterogeniety of banking loan output that led Chandler to conclude that competition was outside the set of possible banking market structures.[5]

The previous section examined the output mix found within different states and the conclusion was that there was a systematic difference in loan portfolios under alternative regulatory sets.

This means, of course, that any average interest rate will be of value as a measure of performance only if the different products have the same rates. In fact, this is not true. The average rate associated with "retail-type" loans tends to be anywhere from one (real estate loans) to ten percentage points (consumer installment loans) higher than "wholesale-type" loans.

It is, therefore, not surprising that the average loan rate associated with the multi-office banking states exceeds that associated with uni-office states (see Table 39). The fact that the loan portfolio of a multi-office bank normally contains a much larger percentage of retail loans than generally found in the uni-office bank would necessarily lead to a higher average rate. Of course, this higher rate is more a function of the difference in portfolio rather than a difference in market performance.

A comparison of the rates associated with the individual components of the loan portfolio could perhaps lead to some associative conclusions. Here again, however, the heterogeneous nature of this output, even in its disaggregative form, limits the value of the comparative data. For example, attempts to compare wholesale rates are extremely frustrating due to the lack of standardization in loan charges. There is an infinite variety in risk, term, required balances, and methods of stating charges, among other factors. In fact, the extent of the problem led one author to conclude:

> Generally, neither the results of questioning bankers directly nor such other information as could be found provided any good basis for judgment.[6]

It would appear that if structure makes a difference in this part of the loan market, it must be identified outside of comparative rates, perhaps in terms of loan limits or specialized services which are topics of later interest. Within the retail loan sector, the consumer installment loan is somewhat more standard. However, the evidence available as to the effect of structure on rates here is somewhat mixed.

> Thus the pattern of rates on consumer installment loans defies easy generalization. In some cases unit banks seem to charge lower rates and in other cases the opposite is true.[7]

TABLE 39

SELECTED INCOME FIGURES
COMMERCIAL BANKS,
DECEMBER 31, 1970

Unit Banking States

	Rate of Return on Loans	Rate of Return on U.S. Securities	Elasticity Estimate
Arkansas	7.89	6.11	4.43
Colorado	8.74	5.96	3.17
Florida	8.27	5.94	3.55
Illinois	7.47	5.79	4.45
Iowa	7.48	5.93	4.82
Kansas	7.87	5.77	3.74
Minnesota	7.43	5.77	3.99
Missouri	7.65	5.96	4.53
Montana	8.10	5.60	3.24
Nebraska	7.77	5.78	3.90
North Dakota	7.30	6.19	6.58
Oklahoma	8.64	5.86	3.11
Texas	8.57	5.72	3.01
West Virginia	7.44	5.55	3.94
Wyoming	8.23	5.84	3.44
Average	7.92	5.84	3.81

able 39 (Continued)

Limited Branching States

	Rate of Return on Loans	Rate of Return on U.S. Securities	Elasticity Estimate
Alabama	8.21	5.96	3.65
Georgia	8.62	6.00	3.29
Indiana	7.63	5.57	3.70
Kentucky	7.17	5.77	5.12
Louisiana	8.19	6.22	4.16
Massachusetts	8.16	5.79	3.44
Michigan	7.67	5.61	3.72
Mississippi	7.94	5.65	3.47
New Hampshire	8.02	5.67	3.41
New Jersey	7.47	5.63	4.06
New Mexico	8.63	5.77	3.02
New York	7.78	5.46	3.35
Ohio	7.28	5.66	4.49
Pennsylvania	7.19	5.48	4.20
Tennessee	8.03	5.89	3.75
Wisconsin	7.41	5.82	4.66
Average	7.83	5.75	3.76

able 39 (Continued)

State-Wide Branching States

	Rate of Return on Loans	Rate of Return on U.S. Securities	Elasticity Estimate
Alaska	9.24	5.52	2.48
Arizona	8.82	5.33	2.53
California	9.04	5.80	2.82
Connecticut	8.11	5.76	3.45
Delaware	7.41	5.62	4.14
Hawaii	9.19	5.86	2.76
Idaho	8.05	5.58	3.26
Maine	8.30	5.95	3.53
Maryland	7.36	5.83	4.81
Nevada	8.86	5.90	2.99
North Carolina	8.43	5.78	3.18
Oregon	8.27	5.71	3.23
Rhode Island	8.75	5.48	2.68
South Carolina	8.46	5.95	3.37
South Dakota	7.44	5.97	5.06
Utah	8.57	5.35	2.66
Vermont	7.30	5.79	4.83
Virginia	7.92	5.81	3.75
Washington	8.40	6.04	3.56
Average	8.31	5.73	3.22

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, 1971.

There is some evidence that bank structure makes a difference in the real estate loan area. The spread of branch banking outside the metropolitan core areas appears to reduce mortgage loan rates.[8] Of course, as noted previously, the unit bank tends to be a somewhat reluctant participant in this market, due to the composition of its fund input as well as the competition from other financial institutions. Therefore, the uni-office bank generally registers lower in performance in this market than the multi-office bank.

There have been some recent studies which have attempted to overcome the problems of measuring performance by the use of the rates charged on loans. One of the most promising ideas was proposed by Brucker.[9] He suggests that if the bank is considered as a multiple-product, price-discriminating firm (Shull's Model),[10] then an elasticity of loan demand can be used as a coefficient to measure market performance in the output market. The coefficient is computed as:

$$e_L = \frac{AR_L}{AR_L - AR_B}$$

where:

AR_L = average revenue from loans and discounts
AR_B = average revenue from U.S. Government securities.

The lower the value of e_L, the greater the degree of monopoly power as evidenced by the divergence between the firm's marginal cost (which is equal to AR_B) and its average revenue.

Computation of the elasticity estimates for the various states separated by regulatory structure reveals a declining value as the uni-office constraint is lifted (Table 39). If the Brucker figures are to be taken literally, the conclusion would be that uni-office banking is consistent with the best performance in this part of the output market.

However, the difficulties which plague the traditional measure of performance are not filtered out by this change in perspective. The average revenue of a retail-loan oriented portfolio will necessarily be higher than the average revenue of a portfolio emphasizing wholesale loans. On the other hand, the average revenue from U.S. Government securities would tend to be the same regardless of the loan portfolio. It would, therefore, not be surprising that the elasticity coefficient associated with multi-office banking is relatively low, reflecting the difference in loan composition primarily.[11]

In summary, it would appear a uni-variate approach to output price performance has serious difficulties. A multitude of important factors affect these prices including population density, income levels, growth rates of population and income, degree of urbanization, availability of non-bank alternatives, local or regional differences in the overall supply of and demand for funds, bank costs, etc. Some of these factors are correlated with bank structure, so that it is difficult or impossible to sort out their separate effects.

Even more debilitating analytically is the heterogeniety of the end product. The portfolio composition of a bank is virtually a unique expression of the many human and economic variables that are a part of that bank's scenario. While some rate/structure relationship appeared in the real estate loan market, the general conclusion is that evidence of structural effects in this area must be sought elsewhere. The rate structure of Florida banks may change under an alternative regulative set, but this change will be a second or third level effect arising as a result of other more direct changes in banking variables caused by regulatory change.

The effects on the cost of intermediation are indeterminant. Minimization would be consistent with the lowest possible sustainable rates on a given type of output. However, the data do not permit such disaggregated analysis, so the focus point in this market must be shifted from price to products or service.

Bank Services

An inquiry into the availability of bank services cuts across the market dichotomy and necessarily includes forms of input compensation as well as output. The service-dimension of performance might well include a variety of characteristics. The introduction of technological advancement, the offering of new services as needed, the convenience with which service is provided, and even the long-run stability of the bank itself.

There is no comprehensive theory that relates the cost of intermediation to performance in these respects. However, it is conceivable that the structural format may facilitate or encourage service-dimension performance which will be more or less contributory to the objective function.

In order to minimize the cost of intermediation, the structural set must contribute to an environment of responsiveness to technological and demand-oriented changes. An *a priori* hypothesis would suggest that the structural set associated with the largest number of alternative sources, the greatest breadth of services, the most convenience in services and locations and "technological sensitivity" would be consistent with the objective function. It must be recognized that the validity of the hypothesis is contingent upon certain states of nature. It is assumed that the services offered and changes introduced are responsive to a need or contribute to a more efficient combination of resources.

One of the basic measures of intermediation convenience has to be the number of banking offices in a given market. Any additional banking office will bring added convenience to some group of bank customers. Data examined in an earlier chapter indicated, rather conclusively, that the multi-office set is associated with a larger number of banking offices per market than the alternative.[12] It would appear that this service-variable would definitely be affected by the removal of the uni-office constraint in Florida in such a way as to contribute to the minimization of the cost of intermediation.

In addition to the number of banking offices within a given market, it is possible that banking structure may make a difference as to the breadth of the product line. In fact this possibility has been the subject of several studies and the general conclusion has been that the multi-office regulatory condition is generally associated with a more complete set of services than found under the uni-office constraint.[13]

The reason for such results is generally attributed to two widely acknowledged characteristics of multi-office banking. As has been noted previously there is a meaningful correlation between multi-office banking and size. As might be expected, the empirical work shows the range of services offered by banks to be related to size, since a larger institution is more likely to generate the volume necessary to make a specialized service profitable. In addition to the size differential, the nature of multi-office banking is such that any given location may be customized to meet the demands of that location. Individual offices may have highly specialized asset portfolios which would not be sustainable on a uni-office basis. Consequently the multi-office system may be able to offer some kinds of services beyond the reach of the uni-office bank.[14]

Technological sensitivity as a measure of the ability and/or willingness of a banking organization to achieve optimal interface between technology and the firm's operation is difficult to measure. The principal technological advancement playing an important part in the bank's production process is what goes under the general term of automation. Automation by the banking system has meant the adoption of a series of electronic and mechanical techniques and equipment, including the entire computer set, which have contributed to a reduction in operating costs, an increase in customer services, and improved internal systems.

Empirical studies have indicated that the "index" of technological sensitivity is a function primarily of bank size. A recent automation survey conducted by the American Bankers Association indicated that better than 90 percent of all banks over $50 million in deposits used some type of computer service, whereas only 32 percent of the small banks (under $10 million in deposits) were using such (Table 40). A somewhat broader study by Bell and Murphy indicated that this size

TABLE 40

AUTOMATION STATUS OF
SURVEYED BANKS, A.B.A.
AUTOMATION SURVEY, 1969

Status	Deposit Size (in millions) All Banks	Under $10	$10-$49	$50-$99	$100-$499	Over $499
Using on-premises computer	24%	1%	14%	52%	83%	96%
Using off-premises computer services	42	31	65	40	16	4
Planning to change to computer use	3	3	4	3	1	--
No plans to change to computer	31	65	17	5	--	--

Source: B.M. Rider, "The 1969 Automation Survey," Banking, Vol. LXII, No. 4, October, 1969, p. 62.

differential held true over the entire spectrum of electronic and mechanical equipment usable in the banking process.[15]

In as much as increased bank size is a characteristic of multi-office banking, it would appear that the technological sensitivity of the multi-office alternative is higher. Apparently the capital outlay required and the minimum feasible work load necessary restricts the more sophisticated tools of automation to the larger banks. Although some small bank participation has been achieved through various joint projects, full enjoyment of the gains from automation appear to be yet an unrealized technological possibility for the small bank and the uni-office state.

In summary, it would appear that in every aspect of bank services examined, the multi-office set was associated with the more optimal condition. If the relationship between bank services and the cost of intermediation is as hypothesized, then the multi-office alternative creates a service dimension environment in which these costs may be minimized. The lifting of the uni-office constraint in Florida would certainly lead to an increase in the number and convenience of banking offices in the state. Average bank size would tend to increase, thus enabling more banks within the state to bring the industry's technological advances in production and services to their particular market. Finally, Floridians at all market levels could expect a broader line of financial services as a result of the characteristics of multi-office banking.

Loan Limits

One aspect of performance in the output market which has received special attention in recent years is loan limits. The ultimate loan limits which exist for any given bank are not a function of internal portfolio decisions but rather they are a product of regulation. National banks under 12 U.S.C. 84 are limited in their loans to a single borrower to an amount no greater than ten percent of the bank's capital and surplus. State banks generally have similar constraints and in Florida the ten percent rule is part of the Banking Code.[16]

This regulatory limit restricts a given bank's output mix by putting certain actual or potential loans outside the allowed set. Obviously, the severity of this constraint depends upon the capital and surplus of the banks of any given market. The effects of such a limitation on the cost of intermediation will depend on the demand for this output and the cost of such a demand going unfilled in any given market. Comptroller Saxon, in 1962, pointed out in testimony before Congress on H.R. 8247 some of the social and opportunity costs that may be incurred by the banks.

> Where a bank's activity is restricted to an area dependent upon a narrow economic base, loan diversification may be difficult to achieve under any limitations. Moreover, lending limitations may in some instances actually restrict the diversification possibilities of commercial banks. This would occur, for example, where a small or medium-sized bank was effectively excluded by its lending limit from servicing a medium or larger commercial customer, and consequently had to restrict its lending activity to installment or real estate lending, or to smaller commercial lending which might be heavily concentrated in one or a few industries.[17]

It would appear that the structural set which permitted the widest range of output at any given market level would contribute to a minimization of the cost of intermediation. If the structural set facilitates capital utilization so that the bank has the ability to meet the need if it arises and yet does not have redundancy in its capital structure, then there has been a contribution to the objective function.

There is a clear and definite difference in this aspect of the output market under the alternative structural sets. Each bank location is subject to this constraint under the uni-office set. In a multi-office system the capital requirements for each location tend to be similar to those of a unit bank of comparable size. However, unlike the uni-office bank, the lending limit of each location of a multi-office bank is 10 percent of the total capital accounts of all banking offices of the system to which it belongs. It is axiomatic, therefore, that any branch office must have a loan limit that is larger than that of a unit bank of comparable size since the branch is merely one part of a multi-office firm.[18]

An examination of the loan limits for Florida banks by county (Table 41) indicates that more than half of these local markets have loan limits of $100,000 or less and the largest limits available in Duval and Dade county are $2,750,000 and $3,000,000 respectively. A comparison of these figures with those of a multi-office state such as California or North Carolina give dramatic evidence of how the 10 percent regulatory constraint has limited the output of the uni-office state. In California, every local market as defined by county lines has been penetrated by at least one of the state-wide branching systems and the loan limits vary from a minimum of $20,600,000 (Crocker-Citizens National Bank) to $85,600,000 (Bank of America). Likewise in North Carolina the state-wide branching institutions have penetrated all local markets and as a result the loan limits vary from a minimum

TABLE 41

LOAN LIMIT OF THE
LARGEST BANK IN EACH
COUNTY, FLORIDA, DECEMBER, 1970

Alachua	$ 450,000
Baker	20,000
Bay	240,000
Bradford	102,500
Brevard	210,000
Broward	800,000
Calhoun	60,000
Charlotte	145,000
Citrus	100,000
Clay	50,000
Collier	18[illegible],000
Columbia	110,000
Dade	3,000,000
De Soto	60,000
Dixie	30,000
Duval	275,000
Escambia	490,000
Flagler	55,000
Franklin	35,000
Gadsden	100,000
Gilchrist	20,000
Glade	-0-
Gulf	87,500
Hamilton	70,000
Hardee	100,000
Hendry	85,000
Hernando	110,000
Highlands	180,000
Hillsborough	1,450,000
Holmes	25,000
Indian River	240,000
Jackson	100,000
Jefferson	70,000
Lafayette	10,000
Lake	150,000
Lee	600,000
Leon	300,000
Levy	30,000
Liberty	-0-
Madison	90,000
Manatee	450,000
Marion	240,000
Martin	120,000

TABLE 41 (Continued)

Monroe	280,000
Nassau	180,000
Okaloosa	160,000
Okeechobee	60,000
Orange	860,000
Osceola	60,000
Palm Beach	500,000
Pasco	225,000
Pinellas	740,000
Polk	600,000
Putnam	140,000
St. Johns	175,000
St. Lucie	200,000
Santa Rosa	95,000
Sarasota	550,000
Seminole	150,000
Sumter	40,000
Suwanee	105,000
Taylor	60,000
Union	30,000
Volusia	350,000
Wakulla	-0-
Walton	60,000
Washington	90,000

Source: Computed from figures presented in Florida Bank Directory, 1971 Florida Bankers Association.

of $4,400,000 (First Union National Bank) to $10,100,000 (Wachovia Bank and Trust Co.).

Two objections to this apparent multi-office advantage are sometimes offered. First, it is suggested that uni-office banks can overcome this limitation by pooling their capabilities through some form of participation or joint venture. Indeed, this is often done in uni-office states. However, it is obviously more inefficient and generally less preferable[19] from the borrower's viewpoint as it must be coordinated with and approved by all participating bankers. As was noted in a previous chapter,[20] Florida has had a recent experience with this problem in trying to meet the financial needs of Disney World.

A second objection that is sometimes interjected is that regardless of the higher loan limits, the branch manager does not have the lending authority and the result is that the apparent advantage is offset by the need for central office approval. However, the conclusions of several studies which have looked into the lending authority question have not supported this contention. Generally, they agree with the New York study which concluded:

> Thus, the available data did not support the charge that borrowers were subject to greater inconvenience at out-of-town branches of branch banks due to limitations placed on the size of loan the branch manager was permitted to make on his own authorization.[21]

In summary, it appears that one of the readily distinguishable differences in alternative structural sets is in the loan limit. The regulatory constraint is such that the multi-office alternative has an unequivocal advantage in offering the broadest possible output set in terms of loan size at every market level. The lifting of the uni-office constraint in Florida would increase the ability of all size banks in the state to accommodate the demand for large loans when they appear. Thus, the cost of intermediation would be reduced due to the ability to respond to intermediation needs which currently go unmet within the state and there would be a more efficient utilization of capital funds in this regard.

Bank Earnings

In a certain sense, earnings data summarize the major activities of a business enterprise. They reveal the net position of the firm in the interplay of prices, costs, and output. Hence such data are generally considered an important index of the degree of success that a firm achieves in its operations. Some would consider earnings figures as a clue to overall firm efficiency; others, as an indication of market structure. Theoretically, an examination of the earnings under the alternative regulatory sets would serve to integrate some of the earlier analysis.

It is important that the proper perspective be maintained in examining these data. The minimization of the cost of intermediation is not necessarily consistent with maximum bank earnings. In fact, these two possibilities may be the antithesis of one another. In a uni-variate situation, the cost of intermediation will be minimized where bank earnings are minimized. This is subject, of course, to the constraint that there must be sufficient earnings to adequately compensate all factors of production.[22] The conclusion, then, would be that the preferable regulatory set is the one consistent with the lowest acceptable earnings rate which can be sustained.

Before looking at empirical evidence, certain "caveats" concerning the usefulness of bank earnings ratios must be mentioned. The output combination of every bank differs in some respects and differences in earnings ratios necessarily reflect these differences in composition. In addition, it should be recognized that the "summary-nature" of these figures may easily mask important structural characteristics which can be identified only on a disaggregated basis.

A look at the several earnings ratios presented in Table 42, shows that under every earnings measure the uni-office regulatory set is consistent with the highest figures. An examination of these ratios over time shows that this uni-bank performance has only developed within the last five years and prior to that the data tended to indicate "bank profitability was not related to branch banking laws."[23]

The earnings picture for Florida banks is particularly impressive for investors, but somewhat depressing for those interested in minimizing the cost of intermediation. The net current earnings to capital figure for the state (14.16) is the second highest in the nation[24] and the net current earnings to assets is substantially above the national average. Allen C. Ewing, a specialist in Florida bank stocks, is quick to point out that "there is no doubt that the profitability of Florida banks have increased considerably in recent years as compared with all commercial banks in the country."[25]

It should be noted that this consistently higher earnings picture under uni-office constraints as found in Florida has been achieved in spite of the differences in asset composition. Earlier analysis indicated that multi-office banking is generally associated with a higher

TABLE 42

BANK EARNINGS RATIOS
BY STATES, DECEMBER, 1970

Unit Banking States

States	Net Current Earnings to Capital	Net Income to Capital	Net Current Earnings to Assets	Net Income to Assets
Arkansas	12.27	12.13	1.09	1.08
Colorado	12.92	13.13	1.08	1.09
Florida	14.16	14.24	1.06	1.07
Illinois	12.12	12.31	.93	.94
Iowa	11.65	11.82	.99	1.00
Kansas	12.05	11.91	1.11	1.10
Minnesota	10.90	10.84	.78	.78
Missouri	12.70	12.66	1.08	1.08
Montana	13.48	13.41	.96	.96
Nebraska	12.89	12.92	1.18	1.18
North Dakota	13.81	13.55	1.11	1.09
Oklahoma	12.99	13.06	1.07	1.08
Texas	12.54	12.44	1.04	1.03
West Virginia	12.54	12.36	1.07	1.05
Wyoming	11.88	11.97	1.04	1.05
Average	12.60	12.58	1.04	1.04

Limited Branching States

States	Net Current Earnings to Capital	Net Income to Capital	Net Current Earnings to Assets	Net Income to Assets
Alabama	12.59	12.82	1.11	1.13
Georgia	14.02	13.98	1.21	1.21
Indiana	12.92	13.12	.97	.99
Kentucky	11.69	11.98	1.03	1.06
Louisiana	13.98	14.05	1.02	1.03
Massachusetts	9.92	9.84	.95	.94
Michigan	11.14	11.03	.83	.83
Mississippi	14.60	14.56	1.10	1.10
New Hampshire	11.33	11.79	1.04	1.08
New Jersey	11.74	11.42	.87	.85
New Mexico	10.88	11.05	.86	.87
New York	11.13	11.07	.95	.94
Ohio	11.24	11.36	.93	.94
Pennsylvania	11.37	11.19	.96	.95
Tennessee	12.68	12.80	1.08	1.09
Wisconsin	11.58	11.73	.86	.87
Average	12.05	12.11	.98	.99

Statewide Branching States

States	Net Current Earnings to Capital	Net Income to Capital	Net Current Earnings to Assets	Net Income to Assets
Alaska	12.54	12.79	.75	.76
Arizona	7.74	7.85	.58	.59
California	9.01	9.46	.74	.77
Connecticut	11.23	11.35	.97	.98
Delaware	11.37	11.20	1.17	1.13
Hawaii	8.35	8.43	.63	.63
Idaho	12.58	13.07	.95	.99
Maine	13.49	12.99	1.16	1.13
Maryland	11.05	11.03	.91	.90
Nevada	14.13	13.96	1.00	1.00
North Carolina	12.88	13.17	1.12	1.15
Oregon	11.07	11.15	.86	.87
Rhode Island	6.59	6.46	.65	.65
South Carolina	13.22	13.24	1.37	1.37
South Dakota	12.23	12.31	1.06	1.06
Utah	13.96	13.31	1.08	1.03
Vermont	11.42	11.47	.96	.95
Virginia	12.08	12.02	.95	.94
Washington	10.46	10.80	.90	.93
Average	11.34	11.37	.94	.94

Source: Bank Operating Statistics, 1970, Federal Deposit Insurance Corporation, 1971 loan to asset commitment than that which arises under uni-office banking. Given that the loan component generates the highest per dollar earnings for the bank, it is somewhat surprising that the uni-office set is associated with the highest earnings ratios.

In summary, it would appear that the uni-office constraint does not promote the minimization of the cost of intermediation as viewed from the earnings perspective. The higher earnings ratios associated with uni-office banking in general, and Florida in particular, tend to raise the cost of intermediation above the minimum sustainable level. The fact that banking is growing, perhaps even more rapidly, under the multi-office set would suggest that the lower ratios associated with the latter are within the constraint of the model. A lifting of the uni-office limit in Florida would lead to a reduction in these earnings ratios and thus reduce the cost of intermediation.

Summary

This chapter has been concerned with performance in the output market under alternative regulatory sets and how such performance might affect the cost of intermediation. The analysis was restricted to the loan component of the output market and certain recognizable characteristics which tend to be associated with the structural possibilities in this market.

Output composition is apparently influenced by the structural environment and the retail type loan finds greater representation under multi-office banking while the wholesale loan is dominant under the uni-office set. However, the heavier loan concentration of the multi-office situation implies that the greater attention to retail demands under this regulatory environment is not at the expense of wholesale requirements.

A by-product of the output composition analysis was a conclusion that multi-office banking is responsive to local needs for funds and does not, as sometimes suggested, lead necessarily to a net local outflow of funds.

While this difference in loan composition is a distinguishable structural characteristic, it was found that it makes output rates, as a structural characteristic, somewhat indistinguishable. The heterogeniety of the loan portfolio as well as the noted compositional differences minimizes the value of output rates as a measure of output market performance. Attempts to filter the heterogeniety out by an elasticity coefficient were not successful and so the analysis was then shifted to bank services.

In the aspects of services investigated, the multi-office environment appeared to enjoy a clear-cut advantage. Without the uni-office constraint, it appears that banking services are more convenient, more complete, and have a greater "technological sensitivity." Further, the ability to offer the "large loan" service is definitely enhanced by the multi-office allowance.

Finally, the profitability or earnings ratio examined indicated for the year considered that the uni-office constraint tends to be associated with higher earnings ratios.

In terms of the cost of intermediation for Florida, it would appear that the uni-office constraint has added more to this cost than would be true under the multi-office allowance. A lifting of

Florida's uni-office requirement would lead to greater loan intermediation, a broader and more convenient set of intermediation services and a movement in the direction of lower profitability ratios, all of which should contribute to the objective of minimizing the cost of intermediation for Floridians.

NOTES TO CHAPTER VI

1. For a summary of these restrictions, see E. Gies, T. Mayer, and E. Ettin, "Portfolio Regulations and Policies of Financial Intermediaries," *Private Financial Institutions* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963) p. 166.

2. There is an exception to this generalization which should be noted. Approximately 30 percent of commercial bank investments on December 31, 1970, were obligations of state and local subdivisions. Some fraction of these were local government issues which, due to the size of the issue or issuer, were able to attract only local funds. In such a situation, the commercial bank may be an important factor in the market. In as much as this set of circumstances is generally restricted to a non-metropolitan locale and previous analysis has suggested multi-office banking places more competitors in such an area it would appear that we could expect better market performance under the multi-office set in this part of bank investments where structure may make a difference.

3. P. Horvitz, "Economies of Scale in Banking," *Private Financial Institutions* (Englewood Cliffs, New Jersey: Prentice-Hall, 1963), pp. 1-54; F. Edwards, "The Banking Competition Controversy," *The National Banking Review*, Vol. III, No. 1 (September, 1965), pp. 1-34; I. Schweiger and J. McGee, "Chicago Banking," *Journal of Business*, Vol. XXXIV, No. 3 (July, 1961), pp. 203-336; D. Motter and D. Carson, "Bank Entry and the Public Interest: A Case Study," *The National Banking Review*, Vol. I, No. 4 (June, 1964), pp. 469-512; B. Shull and P. Horvitz, "The Impact of Branch Banking on Bank Performance," *The National Banking Review*, Vol. II, No. 2 (December, 1964), pp. 143-189.

4. The Edwards study indicated that as the unit bank grows, the retail loan represents a decreasing proportion of the loan portfolio.

5. L.V. Chandler, "Monopolistic Elements in Commercial Banking," *The Journal of Political Economy*, Vol. XLVI, No. 1 (February/December, 1938), pp. 1-12.

6. R.S. Wallace, "Banking Structure and Bank Performance: A Case Study of Three Small Market Areas," Ph.D. dissertation, University of Virginia, 1965, p. 20.

7. J.M. Guttentag and E.S. Herman, "Banking Structure and Performance," *The Bulletin*, No. 41-43, February, 1967, New York University, p. 96.

8. *Branch Banking, Banking Mergers and the Public Interest*, New York State Banking Department, 1964, pp. 104-127.

9. E. Brucker, "A Microeconomic Approach to Banking Competition," *Journal of Finance*, Vol. XXV, No. 5 (December, 1970), pp. 1133-1141.

10. B. Shull, "Commercial Banks as Multiple-Produce Price-Discriminating Firms," *Banking and Monetary Studies*, Deane Carson, editor (Homewood, Illinois: R.D. Irwin, Inc., 1963), pp. 351-368.

11. Brucker avoids this problem to a certain extent by restricting his empirical analysis to unit banking states only. See Brucker, p. 1141.

12. See Chapter IV, pp. 69-75.

13. See E. Kohn, *Branch Banking, Bank Mergers and the Public Interest*, New York State Banking Department, 1964, pp. 156-163; P. Jessup and R. Weintraub, *A Study of Selected Banking Services by Bank Size, Structure and Location*, Committee on Banking and Currency, House of Representatives, 88th Congress, 2nd Session, November, 1964; D.C. Motter and D. Carson.

14. It does not appear that the services the uni-office bank may have access to through correspondent banking would be adequate substitutes. Besides the greater inconvenience and delay for the customer under correspondent banking, it is unlikely that a correspondent bank could manifest the continuous, detailed and long-range attention to the needs of the unit bank's customer which a multi-office bank would for customers of its own branches.

15. F. Bell and N. Murphy, "Economics of Scale in Commercial Banking," *New England Business Review*, Federal Reserve Bank of Boston, April, 1967, p. 5.

16. Laws of the State of Florida, Chapter 659, Banking Code, Second Part, paragraph 659.17. There are some exceptions to the 10 percent constraint allowed under Florida's Banking Code depending on the parties involved and the security offered.

17. U.S. Congress, House Committee on Banking and Currency, *Hearings on H.R. 8247*, 88th Congress, 1st Session, 1963, p. 52. These hearings were in reference to a bill to raise the lending limit to 20 percent. Comptroller Saxon spoke in favor of the bill, but it was never reported out of committee.

18. For a further discussion see A. Rappaport, "Branch Banking and the 10 Percent Rule," *Business Studies*, North Texas State University, Vol. VIII, No. 1 (Spring, 1969), pp. 46-53.

19. In a Ph.D. dissertation, R.S. Wallace interviewed bank customers in different structural environments concerning their evaluation of banking services available to them. Over half of the respondents in the uni-office market (West Virginia) expressed dissatisfaction with the existing loan limits whereas none of the respondents in the multi-office market (North Carolina) had a quarrel with the loan constraints.

20. See Chapter IV, p. 77.

21. Branch Banking, Bank Mergers, and the Public Interest, New York State Banking Department, 1964, p. 95.

22. In this case, adequate compensation would be that required to sustain continued viable participation in the industry and to attract new capital as necessary.

23. B. Shull and P. Horvitz, p. 66. Also Alhadeff concluded:

> Profitability of given banks varies, depending on the particular measure of profitability employed...even with a given measure of profitability, it is not possible to state precisely whether branch or unit banks are the most profitable.

See D.A. Alhadeff, Monopoly and Competition in Banking (Los Angeles: University of California Press, 1954), p. 193.

24. The highest figure is enjoyed by Mississippi banks which have achieved a 14.60 figure under limited branching.

25. Florida Banking and Its Largest Banking Institutions (Jacksonville, Florida: Allen C. Ewing and Co., 1971), p. 14.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The avowed purpose of this study has been an audit of Florida's bank regulatory set. The emphasis has been on that part of the regulatory set which specifies or controls bank structure within the state. The primary concern has been whether the existing structural constraint, uni-office banking, is optimal from the point of view of minimizing the cost of intermediation or whether this objective would be better achieved with fewer structural constraints.

The investigation has developed a number of facts which bear on the question. The matrix which is used to summarize these facts (Table 43) is developed in terms of the theoretical framework evolved in Chapter II.

The framework is drawn around a concept of the regulatory system which envisions the task of regulation as one of moving the extant set of outputs and inputs associated with the banking industry at any point in time in the direction of some optimal set. The optimal structual regulation is seen as that which facilitates this regulatory goal of equilibration.

The goal which the theoretical framework specifies for regulatory optimality is the minimization of the price of intermediation. This objective function is arrived at by taking the context and content of national banking laws over the last 45 years as indications of what is

TABLE 43

SUMMARY OF MARKET STRUCTURE AND PERFORMANCE DATA FOR UNI-OFFICE AND MULTI-OFFICE BANKING

	Uni-Office	Multi-Office
Population per banking office	-*	+
Number of banks in national market	-	+
Number of banks in regional market	-	+
Number of banks in local, non-metropolitan market	-	+
Number of banks in local metropolitan market	+	-
Number of banking offices in local metropolitan market	-	+
Concentration at the state level	+	-
Concentration at the local level:		
metropolitan area	0	0
non-metropolitan area	-	+
Ease of entry	-	+
Service charge	+	-
Compensation for input:		
highly liquid funds	-	+
time and savings deposits:		
state-wide	0	0
local	-	+
Deposit composition:		
time to total deposits	-	+
savings ratio:		
state-wide	0	0
local	-	+
Capital structure: debentures	-	+

TABLE 43 (Continued)

	Uni-Office	Multi-Office
Efficiency:		
cost per unit of output:		
equal sized units	+	-
average sized units	-	+
Capacity:		
available	-	+
utilized	-	+
Output Composition:		
loans to assets	-	+
wholesale loans	+	-
retail loans	-	+
Output rates	0	0
Services:		
convenience of bank locations	-	+
breadth of service-line	-	+
technological sensitivity	-	+
loan limits	-	+
Earnings	-	+

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*The symbols used, +,-,0 indicate relative impact of the particular structure on the objective function. The plus sign means a desirable impact on the cost of intermediation while the minus sign, the opposite. The zero means little or no noticeable difference in characteristics under the regulatory alternatives.

sought in terms of banking characteristics by the public and as expressions of the extant economic, social and political environment. This survey produced four general desiderata:

1. Productive efficiency
2. Allocative neutrality
3. Responsiveness to changes in technology and consumer demand
4. Depositor protection

These several criteria were found to be consistent with the minimization of the price of intermediation and were summarized in an objective function as:

$$\min P_{int} = \sum_{k=1}^{n} \sum_{j=1}^{m} O_k \; P_{ok} - I_j \, P_{ij}$$

$$\text{subject to: } O_k > 0$$
$$I_j > 0$$

$$\sum_{k=1}^{n} \sum_{j=1}^{m} O_k P_{ok} - I_j P_{ij} \geq E$$

This model was then used throughout the paper as a measure of the coincidence between the existing and desired set of inputs and outputs. The structual regulation which contributes the most to the accomplishment of the objective function is viewed as optimal.

Chapter III begins the investigative process by suggesting the historical context within which Florida banking and its regulative set have evolved. In addition, the current economic environment within the state to which Florida banking must be responsive is developed.

The results of this chapter are rather stunning and point out the need for a periodic regulatory audit. Florida's structual regulations were drawn up in 1913. The economic environment in which they were attempting the equilibrating task was largely "traditional." Population was small and widely dispersed with little in-migration and a relatively low growth rate. Agriculture was the dominant industry, by far, and what little manufacturing was present was concentrated in lumber and timber.

The same regulative set is attempting the equilibrating task in today's environment. Almost every characteristic of the state has undergone radical change over the 60 ensuing years. Population is among the largest in the nation and is growing rapidly due to a high level of immigration. Service and trade is the major industry in the state while food and kindred products dominate the manufacturing sector. In almost every dimension of life within Florida, there has been change, except in bank structure regulation.

Beginning with Chapter IV, the task that is enjoined is a multi-faceted one. The current output/input set of Florida banking is identified and then contrasted with the set that could be anticipated when and if multi-office organization is permitted. The different elements of the sets were then evaluated in terms of the existing Florida environment and the objective of minimizing the cost of intermediation. The results of such evaluations provided information as to whether the existing regulatory set is performing its equilibrating task in an optimal manner or not.

In Chapter IV, the emphasis is on market structure as an indicator of the desired output/input set. A conceptual notion of bank markets and a precise definition of Florida's regulatory set preceded a look at such specific market characteristics as bank numbers, concentration ratios, and entry conditions.

In every measure of bank numbers at every market level, the situation in Florida is further from optimality than what could reasonably be anticipated under multi-office banking. Minimization of the cost of intermediation was associated with a relatively large number of banking offices due to the competitive possibilities of such numbers as well as the inherent convenience. It was concluded, therefore, that under the uni-office constraint, equilibration in the area of bank numbers was less than what might be achieved under the multi-office set.

Some attention was given to concentration ratios, an analytical tool of limited value. When these ratios were examined at the state level, the degree of concentration in Florida and other uni-office states tended to be lower than that which was found in the multi-office state. However, in many uni-office states, as in Florida, this lack of concentration may indicate a lack of market participation rather than limited market power. At the local level, surprisingly enough, the concentration ratios tend to be similar when all the official and unofficial banking links are identified in the uni-office state. As a matter of fact, there appears to be a high probability that multi-office banking in Florida would lead to a reduction in concentration in local non-metropolitan markets, where currently it is not unusual to have only one or two banks.

While the relationship between concentration ratios and the cost of intermediation is somewhat tenuous, it would appear that the regulation which minimized concentration would contribute the most to the objective function through its competitive impact on productive efficiency and allocative neutrality. The data examined suggested that the regulatory set is not an important variable in determining the degree of concentration and where it does make a difference, the multi-office alternative seems preferable and should therefore contribute to a reduction in the cost of intermediation in Florida.

The ease of entry was also examined, somewhat indirectly, in Chapter IV. The empirical evidence as well as rationalization based on the characteristics of multi-office banking led to the conclusion that entry was easier in a regulatory environment that permitted the widest possible choices as to bank organization. Florida's under-banked condition appears to be, in part, a result of entry difficulties under the uni-office constraint. Ease of entry is associated with the objective function due, again, to the potential competitive impact. Therefore, the lifting of the uni-office constraint in Florida should reduce the cost of intermediation for the state as entry becomes less difficult.

The focus of the study is shifted somewhat in Chapter V. Performance data are examined directly without reference to market structure as further dimensions of the input/output set are identified and analyzed. Chapter V concentrated on the input market and attempted to establish the impact of structual regulation on input price, composition, and efficiency. In terms of minimizing the price of intermediation, the optimal input set would be that which maximized the price paid the fund offerees while presenting those services and/or facilities required to accomodate the intermediation needs of the market. Of course, the constraint introduced in the model that the price of intermediation be sufficient to compensate all factors of production equitably would place an upper limit both on price and the proliferation of services and facilities.

The price of the highly liquid fund inputs of the commercial bank has several dimensions, most of which are implicit in nature. The average service charge per demand deposit was higher in a multi-office setting. However, it appeared that the implicit price of these inputs as measured by the difference between the cost of servicing the account and the service charge was also higher under multi-office banking.

The lifting of the uni-office constraint in Florida could lead to an increase in the average service charge although the Florida figure is already among the highest in the nation. On the other hand, it was suggested that in spite of this, the total compensation being paid the fund offeree would rise as the cost per deposit rose more than proportionately. The increased compensation would lead to a reduction in the cost of intermediation since it incorporates the other dimensions of compensation such as convenience and service. Thus, the increased convenience of additional depositories in Florida with a wider range of deposit services would more than offset the expected rise in service charges and decrease the cost of intermediation.

The price paid for the less-liquid, store of value type funds is more explicit in nature. However, regulatory limits on the upside reduce the value of these prices as performance measures. While the highest rates appeared in the multi-office setting, regional economic differences may be a more important determinant than structure at the state level. On the other hand, the structual set did appear to make a difference in the local market as the rates under multi-office banking were the highest.

It was concluded that the lifting of the uni-office constraint in Florida would have the desired effect on the cost of intermediation through this characteristic. Within the limits defined by regulatory maximums and the state's economic environment, it was concluded that multi-office banking, due to larger banks and more local penetration, would lead to rates within the state that were higher than would be attained under the current regulations.

An examination of the sources of funds for commercial banks led to the conclusion that fund input composition affects the cost of intermediation. It appears that within certain limits, increased time and savings deposits and increased usage of capital notes and debentures were consistent with the objective function.

An examination of the data indicated greater activity by the multi-office bank in the store of value fund market as evidenced by a higher time to total deposit ratio. In addition, the multi-office set apparently contributes to a greater willingness or ability to use capital notes and debentures as a source of capital funds, witness the ratio relationships in the capital section. It appeared, then, that the lifting of the uni-office constraint in Florida would contribute to the objective function through a more optimal combination of inputs.

The technical efficiency that is sought has to do with the cost of transformation and, of course, what is sought is to maximize technical efficiency so as to minimize this cost. This question was approached in terms of returns to scale and capacity utilization.

Evidently, returns to scale are a part of the banking industry and persist over a wide range of sizes. However, the growth necessary to achieve the highest benefits of these returns is difficult to attain under uni-office banking. The evident size differential indicates that the normal trade-off is several firms under uni-office banking for one firm and several facilities under multi-office banking. Without consideration of allocative costs, this kind of trade-off has led to a lowering of operating costs under multi-office banking and in Florida could lead to a reduction in the cost of intermediation.

The nature of multi-office banking is such that banks enjoy greater usable capacity as well as higher capacity utilization. This was substantiated by the fact that multi-office banks consistently showed a higher loan to total asset ratio. Of course, increased usable and utilized capacity contribute to a minimization of intermediation costs when the excess liquidity is a function of the uni-office structure. Florida's relatively low capacity utilization figure is, to a certain extent, a result of the uni-office constraint. A regulatory set permitting multi-office banking in Florida would increase usable capacity, thus permitting higher utilization and lowering the cost of intermediation.

In Chapter VI, the consideration of performance data was extended to the output market. Bank structure appears to have limited impact on the markets where the banks produce "investment funds," so the Chapter focused on loan output where bank structure may make a difference. In this market, the cost of intermediation in Florida will be minimized under those structual regulations which are consistent with the lowest prices and an output set that is responsive to the several demands of the public. Of course, while minimizing cost and maximizing service, the regulatory set must allow the bank to earn a return sufficient to attract the necessary capital.

One of the clearest structual differences evident in the output market was the difference in loan composition. The different portfolio emphasis (uni-office/wholesale loans; multi-office/retail loans) appeared to be, in part, a function of the growth patterns under the different regulatory sets. Growth under the uni-office constraint must be achieved by a vertical movement into the larger markets while the multi-office bank can grow through horizontal movement into different local markets.

In terms of the objective function, this portfolio difference added to the fact that the loan to asset figure is higher under multi-office banking led to the conclusion that a lifting of the uni-office constraint in Florida would permit the banking system to respond more indiscriminately to the total demand for funds in the market. It is unlikely that any of the current Florida demanders would experience a decrease in funds available, whereas some sectors would experience an increase, thus contributing to a decline in the cost of intermediation.

These portfolio differences plus the heterogeniety even within general loan categories limited the value of trying to establish a rate/structure relationship in the output market. The average figures as well as the elasticity coefficient used were lowest under uni-office banking. However, this appeared to reflect the difference in loan composition and demand more than the regulatory differences.

The conclusion was that the rate structure of Florida banks may change under an alternative regulatory set, but this change would be a second or third level effect arising as a result of other more direct changes in banking variables caused by regulatory alteration.

In terms of services, it was hypothesized that the structual set associated with the largest number of banking offices, the greatest breadth of banking services and the highest "technological sensitivity" would be consistent with the objective function. An examination of the evidence revealed that in these several aspects of services, multi-office banking enjoyed a performance advantage. These advantages stemmed from the growth characteristics of the multi-office set as well as the ability of such banks to penetrate more local markets with a larger set of services.

A lifting of the uni-office constraint in Florida would lead to an increase in the number and convenience of banking offices in the state. Average bank size would increase, thus enabling more banks within the state to bring the industry's technological advances in production and services to their particular markets. Further, Floridians at all market levels could expect a broader line of financial services.

It was in this area of services that another of the readily distinguishable structual differences emerged and that was in loan limits. Due to certain regulatory constraints (10 percent rule) and interpretations, the multi-office bank has an inherent advantage in offering single customer large loans. The comparison of Florida loan limits with multi-office limits indicated the restrictions placed on this part of the output set under the uni-office constraint and the

10 percent rule. Certainly, the multi-office allowance in Florida would be accompanied by a rapid increase in loan limits.

Earnings were viewed as a type of summary figue in which the several performance measures were synthesized. The regulatory set consistent with the lowest acceptable earnings rate which could be sustained was designated as optimal from the point of view of minimizing the cost of intermediation. It was evident from the data that the uni-office constraint was generally associated with a higher earnings rate. This was particularly true in Florida which has one of the highest set of earnings ratios in the nation. It appeared probable that the introduction of multi-office banking in Florida would lead to a decline in these earnings and a similar decrease in the cost of intermediation.

The perspective which is incorporated in the model's objective of minimizing the cost of intermediation is a total welfare type of outlook. The optimal structure is seen as that which facilitates the intermediation process with the minimum dissipation of resources. Neither the banker, the depositor, nor the borrower is to be favored, rather the objective is to limit the cost of this service to society to that amount necessary to acquire that service.

This is the perspective that has been used in examining Florida banking under the uni-office constraint. This constraint or any structual regulation has the task of facilitating the increased coincidence between the extant set of outputs and inputs and that set which will contribute most to the objective function.

The broad-sweep survey or audit undertaken in this study has developed rather conclusive evidence in support of the hypothesis stated in the Introduction:

> Present Florida bank structure regulations were developed in the distinctly different environment of 1913. While these laws may have been relevant to the intermediation needs of the state at that time, today these regulations cause an undue divergence from the optimal set of outputs and inputs. A change in Florida bank laws to allow multi-office banking would allow Florida bank structure to be more consistent with the existing economic environment and more responsive to the present and future financial needs of the state.[1]

Such a result will contribute to a reduction in the cost of intermediation in the state of Florida.

Of course, it is evident from the data that the introduction of multi-office banking in Florida will not be an unmixed blessing. There are trade-offs as some elements in the optimal set are more closely approximated under the uni-office constraint. On the other hand, the preponderance of evidence leads to the conclusion that multi-office banking will contribute to the objective function. However, it should not be necessary to seek justification for the suggested regulatory change in terms of some "universal good" or with the implication of little or no trade-offs. Multi-office banking, as opposed to uni-office banking, is permissive. It allows either form of organization. It does not replace the uni-office bank with the multi-office bank, it merely permits both to exist simultaneously in some market. Empirical studies have indicated the feasibility of cohabitation by both types of organizations within a state.[2] As long as one intermediation need arose which could best be met by multi-office banking that regulatory set would be justified.

Structual regulation is only one of several somewhat redundant screens through which banking entry is filtered. Increasing the mesh size in this particular screen does not reduce the total filtering, it merely gives the regulatory agency more flexibility as to what mix is appropriate. Entry into any given bank market under multi-office banking may be met by a new unit bank, a new branch, or through merger. The chartering authority may choose the entry vehicle which will contribute to the minimization of the price of intermediation in any particular case. Of course, this presumes a willingness and ability of the chartering authorities to apply rational standards to entry applications. Hopefully, such a presumption is justified.

It would appear that such structual flexibility would be a necessary characteristic in a state such as Florida. The state has been subject to rapid change over the last 50 years and there is nothing to indicate that this pace may be altered over the next 50 years. The demographic characteristics will continue to change as population increases rapidly. The economic environment will continue to fluctuate as witness, Disney World which has brought a new emphasis on tourism, and the space program which has and will bring cyclical emphasis on electronics and technology. To continue regulatory rigidity in such a volatile environment is to risk a perverse regulatory set. Just as the 1913 structual regulations in Florida cause deflection rather than coincidence in 1971 between actual and optimal sets of outputs and inputs, so a continuation of this rigidity into the future can contribute little to the objective of minimizing the cost of intermediation.

Multi-unit Banks and Limited Multi-office Banks

While this concludes the investigation it is necessary to interject an addendum concerning the regulative alternative of restricted multi-office banking as well as a comment on the multi-unit banking that has arisen in Florida.

Perhaps one of the most pervasive arguments for multi-office banking in Florida has been the rapid growth of multi-unit (group and affiliated) banking in the state. Since 1968, the number of banks in Registered Bank Holding Companies, One Bank Holding Companies, and Affiliated Bank Groups (Table 25, p. 106) has more than doubled and as of December 31, 1970, represented some 72 percent of the banks in Florida, holding 89.6 percent of the deposits. This rapid expansion has come primarily via the merger route and the number of truly independent unit banks in the state has been drastically reduced.[3]

The multi-unit form of banking has flourished as an institutional answer to the excessive cost of intermediation under the uni-office constraint. In fact, group banking in a uni-office state is sometimes viewed as negating the need for branching. Recently, Mr. John Jenkins, President of the Florida Bankers Association, has suggested that the branch bank issue is probably dead since large banks have accomplished what they wished with bank holding companies.[4]

It is evident that the multi-unit form of organization leads to the development of psuedo multi-office banks in a uni-office regulatory environment. The control of several banking entities through the control of several charters does provide some relief to the intermediation costs of the uni-office constraint. However, although the multi-unit organization may be a satisfactory solution from the banker's viewpoint as suggested by Mr. Jenkins, it is not the optimal answer as measured by the objective function employed by this study. Almost without exception, the multi-office bank produces a more optimal set of outputs and inputs than the multi-unit bank.

Whatever advantages the uni-office organization enjoys over the multi-office arrangement, it holds equally as well against the multi-unit bank. On the other hand, the multi-office form has some definite advantages.

(1) Multi-office banking provides for greater mobility of funds. In the matter of capital structure, deposits, and loans, each bank of the multi-unit system must have its own separate account. Loan limits for any one bank are based on the capital and surplus of that bank, whereas the limits under multi-office banking are based on the total capital of the system. While the multi-unit bank could possibly overcome this problem through participations within the system, this is a less efficient and more time consuming solution. Each of the participating banks' boards must approve and although all may concur, the inconvenience adds to the cost of intermediation.

(2) The multi-office bank has greater flexibility in bank location and may be able to penetrate local markets which have a chronic fund flow imbalance. On the other hand, the multi-unit bank enters only those markets whose intermediation needs are sufficiently balanced to sustain a banking corporate entity. One result of this difference is that most new entry under multi-office banking is by way of _de novo_ branches whereas the most usual expansion route for the multi-unit bank is via merger.

(3) The multi-office form of banking provides a better solution

to the problem of management succession which is one of the critical issues facing banking, in general, and Florida banking, in particular. The single corporate entity of the multi-office bank along with its typically large size places it in a better position to attract and hold young management talent than the several corporate entities of the multi-unit system. Further, the multi-office bank generally has greater flexibility in moving its management personnel as needed. The results can be readily observed in college recruiting. Almost without exception, the active recruiters in Florida are multi-office banks with little or no representation from the multi-unit organizations.[5]

(4) The primary advantage generally cited for multi-unit over multi-office is greater local autonomy and discretion. However, several studies have concluded that the claimed advantage is largely illusionary. The local board of directors of the multi-unit bank and the local advisory board of the multi-office bank are subject to the control and/or influence of an outside group, be it the controlling stockholder or parent bank.

In summary, the multi-unit organization has all of the disadvantages of multi-office banking and yet does not fully enjoy all of the advantages. In fact, the case for multi-office banking over multi-unit is generally accepted and most would agree with Lamb who stated "This study acknowledges the superiority of branch banking (multi-office) over group banking (multi-unit)."[6] While the multi-unit banking in Florida provides some relief from the excessive costs of intermediation resulting from the uni-office constraint, it is at best only an intermediate answer. What is needed is the freedom of multi-office banking under which the several alternatives may coexist as they meet the intermediation needs of the community.

The other answer to the problems of the uni-office constraint, restricted multi-office banking, is also found to be lacking. The attempts to restrict multi-office banking by home office protection or county line constraints have oftentimes created more problems than solutions. Home office protection, where branching outside of some defined area (city, metropolitan, county) can be by merger only, restricts one of the major competitive weapons of multi-office banking-de novo branching. Likewise, the arbitrary geographical constraints often have little or no relevance to natural markets and may actually encourage increasing local market power and a rising cost of intermediation. As Guttentag and Herman noted:

> ....the relationships suggest that limited area branch banking may lead to greater concentration than would result from statewide branch banking laws. Existing forms of limited area branch banking often allow relatively free branching within metropolitan areas, where branch bank expansion may increase concentration, and restrict branching outside metropolitan areas, where branch bank expansion tends to reduce concentration. It would appear that a policy designed to limit banking market power would exercise more restraint on intramarket expansion and less restraint on growth outside the major centers.[7]

This viewpoint has been generally accepted and in Edwards' and Fischer's evaluation of banking in Indiana, they concluded:

> ....if the concentration of financial resources is an important consideration, the limited form of branch banking which currently exists in Indiana and in a number of other states has been found to be about the worst which can be established.[8]

Recently there has been added to these voices of academia, the call of the Antitrust Division of the Department of Justice urging a liberalization of state laws on branching. The agency noted geographic limitations on branching and home-office protection provisions of state laws are unnecessary restrictions and are detrimental to the state's interest in promoting banking competition. It suggested under such restraints *de novo* entry may be discouraged and yet this often is what is needed to provide banking alternatives or to meet an unsatisfied banking need.[9]

As a result, it appears that if policy makers are interested in minimizing the cost of intermediation in Florida, no half-way measure such as multi-unit or limited multi-office banking will suffice. It is time for a regulatory change in Florida and the regulatory set which will produce the output/input set that will contribute most to the objective function is the multi-office set.

NOTES ON CHAPTER VII

1. See Chapter I, p. 5.

2. See E. Kohn, *The Future of Small Banks* (New York State Banking Department, 1966).

3. See W.A. McCollough and H.R. Granade, "Florida- A Unit Banking State?" *Business and Economic Dimensions* (April, 1971), University of Florida, pp. 7-13.

4. Quoted in "Talk and Predictions," *Florida Trend* (September, 1971), p. 6.

5. Information obtained from Mr. Maurice Mayberry, Director of Student Placement, University of Florida.

6. W.R. Lamb, *Group Banking* (New Brunswick, N.J.: Rutgers University Press, 1961), p. 11. See also P.T. Hogenson, *The Economies of Group Banking* (Washington, D.C.: Public Affairs Press, 1955), Chapter XVI; G.C. Fischer, *Bank Holding Companies* (New York: Columbia University Press, 1961), Chapter X.

7. J.M. Guttentag and E.S. Herman, "Banking Structure and Performance," The Bulletin, No. 41/43, February, 1967, New York University, p. 65.

8. E.E. Edwards and G.C. Fischer, *Banking Structure in Indiana* (Bloomington, Ind: Foundation for Economic and Business Studies, 1968), p. 45. Branching is restricted in Indiana to home counties.

9. Reported by S. Stracher, Antitrust Division Seeks Liberal State Branch Banking Statutes," *American Banker*, Vol. CXXXC, No. 68 (April 9, 1970), p. 1.

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William Andrew McCollough was born November 4, 1935, in Atlanta, Georgia. In June, 1953, he graduated from Lakeland High School in Lakeland, Florida. In August, 1957, he received the degree of Bachelor of Science in Business Administration with a major in Industrial Management. From 1957 until 1963, Mr. McCollough served as a pilot in the United States Army and was stationed in Europe. After receiving his Honorable Discharge, as a Captain from the Army, he worked as a real estate salesman and broker in Lakeland, Florida. In September, 1965, he enrolled in the Graduate School of the University of Florida. He worked as a graduate assistant in the Department of Finance until August, 1966, when he was awarded an NDEA Title IV Fellowship. He was awarded a Master of Arts degree with a major in Finance in March, 1968. From September, 1969, until September, 1971, he was a member of the faculty of the College of Business Administration as an Interim Graduate Teaching Associate. Mr. McCollough is currently finishing his work in Finance toward the degree of Doctor of Philosophy.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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C. Arnold Matthews, Chairman
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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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